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ADVERTISING.

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Advertisements will be printed on cover pages only.

GOOD MECHANICS.

THERE is a disposition on the part of most of us to give every well-meaning mechanic a fair chance; and when the architect exercises his undoubted prerogative in restricting the competition for a piece of work to those who have done his work in the past, it often gives rise to a feeling of unfairness, which at first thought seems justified. And yet there is another way of looking at this question. In conversation a short time since with one of our most prominent builders, an architect of more than national reputation was being discussed, and the secrets of his success were being analyzed. The statement was made that he owed a very considerable element of his success to the fact that he resolutely refused to allow his clients to employ any but the very best builders, with the consequence that his buildings were invariably well built, were completed on time, and stood the test of wear. This is something that the beginner in architecture often fails to realize, and the temptation to meet the desires of an owner by allowing an inferior contractor to bid, or by accepting figures from an unknown mechanic, is often the first step towards a ruined reputation. It is not the province of the architect to guarantee or be responsible for the quality of work which the builder does. At the same time, the community judges the architect by his completed buildings, and if he is so unfortunate as to have his work executed by careless or ignorant workmen, his reputation, though he may be entirely blameless, is sure to suffer. So that it is decidedly to the advantage of the architect that a most rigid selection should be made of the parties to whom he is to entrust work. It is equally to the advantage of the builders themselves that the best workmanship should win the best rewards. Every builder wants all he can get honestly, and yet, also, we fancy that any builder, however inefficient in his methods, would prefer to owe his successes to the intrinsic quality of his work, rather than to the mere chance permission or selection on the part of an indifferent architect or owner. If it were more difficult for poor mechanics to get work to do, there would be a higher grade of mechanics as a natural result. And if the obtaining of work were strictly conditional upon a good record in the past, that would be one of the highest incentives for the production of the very best quality of work under all circumstances.

NON-FIRE-PROOF TENEMENTS.

IN our May issue we referred to a bill which had passed to a third reading before the Massachusetts Legislature, so drawn as to permit of four-story non-fire-proof tenement or apartment houses being erected within city limits. We regret to say that this act has been finally passed by the legislature and signed by the governor, and that the opposition represented by the Master Builders' Association and the Boston Society of Architects was of no avail as against the urgings of the Real Estate Exchange. Massachusetts has on the whole been singularly favored in the matter of legislative building enactments. Her laws have been generally well chosen, and have shown a tendency to encourage the best work, to reduce the opportunities for dishonest constructions, and to recognize the opinions of the most conservative and the most advanced thinkers on building construction and science. This is, as nearly as we can recall, the first instance in which purely financial considerations have been allowed to over-ride what is recognized to be the essential condition of security and good building. The act is thoroughly reprehensible. The fact that a few real estate owners claim themselves aggrieved because they could not under the old laws develop their properties as they pleased, is the least of reasons which ought to have weighed with sensible legislators in considering a proposition to throw down the bars. This measure is a step twenty-five years backwards, and one which will be sure to give occasion for much regret in the future, unless a succeeding legislature is sufficiently fortunate to be able to reconsider this unwise enactment, and provide for building hereafter nothing but fire-proof structures in the heart of this great city.

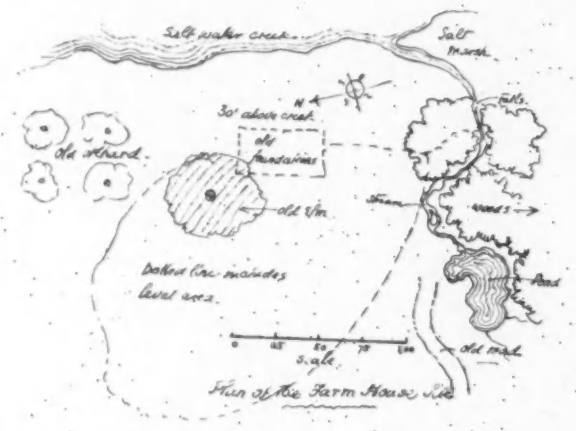
BRICKBUILDER COMPETITION, III.

A FARMHOUSE.

PROGRAM.

THE problem is a farmhouse, barn, etc., to be built on a farm adjoining the sea. The farm ten years ago was in good condition, but the buildings were burnt, and now little remains except an overgrown cart track and the cellar of the house, to indicate its original condition. From the plan will be seen the general lay of the land, and the position of the old cellar, 26 by 50 ft., the creek, the brook, the pond, and the trees.

The new owner wishes to rebuild. He has a wife and four children, keeps one servant, and has two farm-hands



in the house. He wishes to utilize the old foundation, but will have to build larger. The situation is dry, and he prefers a story and a half house to two stories or more. The house will be of brick from the adjoining kiln. It is to contain a large kitchen and an open shed or summer kitchen adjoining, where even in winter washing can be done; a large living room and a small office or sitting room for his wife. They have town water supply so that they can have a closet for the men on the first floor, and a bath room on the second. There will be three bed rooms on the ground floor for farm-hands, and four on the second floor.

The barns, etc., will be on the level ground to the north, with the farmyard facing south. The barn must accommodate eight (8) cows, four (4) horses, pens for pigs varying from two or three to a dozen, loose boxes, one or two, for calving or for a sick horse, sheds for wagons and farm implements and machinery, paddocks, sunny and warm, for winter for both cows and horses. Space is to be reserved and laid out for a hedged garden.

The general style of the house will be very simple, even quite plain; its charm depending largely on the masses and their disposition, on the proportion of the rooms, rather than on decoration.

DRAWINGS REQUIRED: One elevation, or two, if necessary, to show both house and barn. In one corner on the same sheet is to be a sketch plan of the group, not necessarily to scale, but giving the complete lay-out and surroundings, as shown on the accompanying sketch. The drawing is to be in black ink without wash, upon a sheet measuring 15½ by 10 ins.

Each drawing is to be signed by a nom de plume or device, and accompanying the same is to be a sealed envelope with the nom de plume on the exterior, and containing the true name and address of the contestant.

The drawings are to be delivered, flat, at the office of THE BRICKBUILDER, 85 Water Street, Boston, on or before September 1, 1900. For the three designs placed first, THE BRICKBUILDER offers prizes of twenty-five, fifteen, and ten dollars, respectively. All premiated drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish any and all drawings submitted. Some well-known architect, whose name will be announced later, will judge and criticize this competition.

INTERIOR OF THE CHURCH AT ASSISI, ITALY.

IMPRESSIVENESS in interior architecture is gained in different ways. In the cathedrals of Amiens, or Cologne, the vast height of the nave and the splendidly narrowing perspectives of the aisles are tremendously effective. The impressiveness of Monreale comes from its brilliantly colored mosaics and graceful proportions; that of St. Peters from its enormous scale and rich decorations. At Assisi the elements of size, of height, and of brilliant color are lacking. As one enters the lower church, with eyes blinded by the bright Italian sunlight which floods the *piazza*, the gloom of the cavernous interior seems almost inpenetrable, and nothing can be discerned of the details which crowd the walls. But, little by little, as the eyes become accustomed to the darkness, the forms of the architecture begin to be made out: the massively groined vaults, the deeply hollowed chapels, the sturdy pillars, and the shadowy altar assume shape. Aside from the broad beam of sunshine which streams in from the open door, no light reaches the interior except through a few narrow and richly stained windows. Then gradually it is perceived that the arches, ceilings, and walls are covered with the most brilliant frescos and arabesques, and the effect is seen to be one of the most impressive that the mind of man has ever conceived.

The church of St. Francis, at Assisi, consists really of two churches, one above the other. The lower church, which is the subject of our illustration, was begun in 1228, according to Vasari, by Jacopo Tedesco; but after 1232, it appears to have been handed over to Filippo da Campello. The chapels are crowded with tombs and relics, but the especial interest of the interior lies in the famous series of frescos by Giotto, the scenes from the life of Jesus in the transept, and especially the four famous paintings on the vaulting above the high altar illustrative of the vows of the Franciscan order: Poverty, Chastity, and Obedience, and an apotheosis of St. Francis. Simonds, in his "Renaissance in Italy," says of these paintings, that "Giotto approached the deep things of the Christian faith and the legend of St. Francis in the spirit of a man bent simply on realizing the objects of his belief as facts. His allegories of *Poverty*, *Chastity*, and *Obedience* at Assisi are as beautifully and powerfully felt as they are carefully constructed. Yet they conceal no abstruse spiritual meaning, but are plainly painted 'for the poor laity of love to read.'"

An Architects Itinerary.

BY H. B. PENNELL.

IT is quite as difficult, and perhaps quite as unimportant, for a writer to compose an article on European travel without plagiarism as it is for an architect to design a building which attempts to disclaim its ancestry. Perhaps in either case a familiar truth in new dress can lay the best claim to originality. Surely the fact that architecture is composed of two elements, theory and practice, is as old as art itself. By theory, we mean knowledge of the rules of architecture; by practice, the application of the theory in brick and stone. In other words, architecture includes traditions, laws, and formulas as well as

TEMPLE OF NEPTUNE AT PÆSTUM.

their expression in concrete form. Theory is the art, the science, the history, the education of taste, and sense of proportion; practice is effecting a result by the combination of these elements in building materials, and adapting them to the requirements of the problem, the civilization, and epoch. Each of these parts is necessary to the whole, architecture. When we study a building it is not enough to examine its plan, its construction, its composition merely; we should inquire into its historical antecedents, the nature of the materials used, the exigencies of the climate, the customs of the times, and the needs of the people.

Much has been written of the educational benefit to the architectural student of measuring and drawing the buildings of Europe, and studying them in plan and elevation, section and detail. In England, especially, is this method paramount; in France, it is happily preceded by thorough academic training; and wherever or whenever it is used, it should be combined with a wide knowledge of the history and science of architecture. Otherwise, the theoretical education is only partial and will result in practical archæology, — mediævalism or classicism, incongruous and inappropriate. So deeply is the American student imbued with the necessity of using the two-foot rule, that his tendency is to know the length and thickness of the huge stones of a mediæval palace before he considers their connection with the "strenuous life" of the times. We are not of the opinion, however, that it is unprofitable to carefully measure and draw out existing buildings, even if they have been done ever so accurately, and published by other and abler men. Such work is very instructive, and, combined with other methods of observation, will undoubtedly be beneficial. But this should not finish our study of that particular building, and if there is time for only one thing, we much prefer the more general knowledge to the accumulation of architectural data, or the making of small sketches, which, however edifying to the uninitiated, are of little value except for practice in drawing.

The disregard for the historical significance of architecture is largely responsible for the modern imitations of former styles; and not until architects have the proper reverence for the latter, can clients be dissuaded from building Francis I. châteaux, or living in meaningless Empire or Louis' rooms. The present chaotic condition in this regard can only be righted by concerted action; and in the mean time it is incumbent upon students to understand the variations in style of the different epochs and countries, their relationships and development, in order to appreciate their true meaning and character.

To do this it is necessary for the architectural student on a European trip to have a systematic plan of travels, and to travel slowly. It is quite out of the question to adopt the method of the typical American tourist, whose celerity will always be an object of wonder to Europeans. The capacity to take in all Europe on a short vacation, the ability to sum up in a few words the relative merits of countries, governments, and peoples, — to say nothing of their art, — is distinctly a tourist's prerogative. Comments on their travels, heard on multitudes of returning steamers, are seldom more comprehensive than: "London was drizzly," "St. Peter's was awfully disappointing," or "Oh, wasn't St. Mark's lovely by moonlight?" It is beyond human possibility for a student to travel as a great many tourists do and receive any

INTERIOR, CAPELLA PALATINA, PALERMO, SICILY.

real benefit, artistically, from what he has seen. To him, one gallery or one building studied carefully is of more value than many countries seen in a confused and superficial way in a few months. Just as there is no "royal road to learning," so there are no rapid transit facilities; and although it may not be possible to convince him of it before he has made both experiments for himself, it would be far wiser for an art student with only a few weeks at his disposal to devote his entire attention to one city, or one county, or at most one country, than to adopt the usual tourists' method. Take Warwickshire, England, for example. One's time could easily and profitably be spent in studying the houses, gardens, and churches. London alone is almost a whole continent, both in area and in the comprehensiveness of its wonderful museum collections; while either Paris or Rome can be only casually seen in less than a month.

Then the indispensable Baedekers, with their convenient routes arranged in geographical order, regardless of the confusion of ideas or sentiments they may create in one's mind, are adapted to a tourist's, not a student's, needs. Hundreds or even thousands of years may have elapsed and their artistic results entirely disappeared between the fall of one city and the rise of another not an hour's ride distant. Even in the same city, the conventional route planned to avoid the necessity of retracing our steps leads us out of some isolated classic temple of extinct civilization, under the walls of a mediæval fortress, and into a modern cathedral, whose very classicism makes it difficult to separate in our minds the anthems of the Christian church from those we have just imagined we heard chanted to the great god Pan.

It is almost a misfortune, perhaps, to the architectural student that Europe lies with its west coast — the coast of most recent civilization — nearest to us. The American student, arriving from the New World, finds it necessary to say his architectural alphabet backwards. England being most convenient to reach is naturally the first place visited, and the adopted home of Gothic architecture is known before the land of its birth and development. The shores of France are next sought, and here, owing to the existing confusion of styles, he looks at Romanesque, Gothic, and Renaissance in quick succession, without any attempt at classification, and judges everything from the ordinary personal standpoint of like and dislike. We feel sincerely sorry for our student, for we have suffered with him. There may have been reasons why the journey was not arranged differently. He may have started in summer, and as the guidebooks said Italy was hot, he took the northern route. But personal comfort or discomfort is a poor guide to follow, for it is quite as disagreeably warm in England in July as it is cold in Rome in December. Or he may have wished merely to see everything, intending to rearrange it in his mind when he had time, which never happened.

Doubtless there are many and various opinions as to the disposition of one's time in Europe. Whether it shall be devoted to travel, to academic study, or to a happy combination of both depends largely on the previous training and the taste of the student. But, as has been said, it is certain that it is necessary to travel slowly, and to arrange one's journey as chronologically as the geographical conditions will permit. For instance, in Italy, Rome and Ravenna should be known in order that their influence might be traced westward across the continent during the Middle Ages; the Gothic cathedrals of France should be studied after the Northern Romanesque, and before those of England or Germany; the ornamental character of the Gothic influenced the Renaissance on its introduction into France and resulted in Francis I. work; classic art had its rebirth in Italy, and we should become acquainted with it there before meeting its English, French, or German relatives; ancient Rome contained all the elements of the Renaissance, while Roman architecture must be traced back, as you would navigate a river, until the springs of purest water are found at the source, in Greece. We should begin, then, at the source, and go down-stream. It is certain that a trip planned in this way would be most satisfying in its impressions, and the systematic study most

A GREEK THEATER AT TAORMINA, SICILY.

SARCOPHAGUS, CALLED ALEXANDER'S MUSEUM, AT CONSTANTINOPLE.

beneficial in its results. Let us map out an ideal itinerary upon these lines, and formulate a method for observation and study.

There need be no uncertainty where to begin our journey. We will take a steamer for Naples, and no bay could form a more imposing entrance to the scene of our travels. Whether it be by night or by day, we cannot be disappointed. At night the lights of the city gleam like a necklace of opals about the throat of the harbor; and in the morning the city, spread over its many hills, lies before us. On one side Prosillipus shades the tomb of Virgil with its umbrella pines; on the other, Torre del Greco and Pompeii lie at the foot of Vesuvius, with bloody mouth still gloating over its prey. Castellamare and Sorrento continue the coast line, and far out to sea, looking like another fleecy cloud, lies the rocky isle of Capri. We land, and proceed at once to Pæstum to see the ancient temple that, in the sixth century, B. C., adventurous Greeks erected to Poseidon. It has been familiar to us, perhaps for years, in books and photographs, but it is the actual presence of it as it looms before us at the rounding of a curve in the railroad that fixes its real aspect in our minds forever. The ruin stands, isolated and majestic, on the fever-stricken marshes where once thrived a busy Hellenic city, and still faces the sea, which, like its god, has long since deserted the shrine. We have just read the history and pictured in our minds the days when Rome was but a few hovels, in order that we may sympathetically and intelligently enjoy our first sight of early Greek art. Slowly the picture of the past completes itself, and in its true light the temple stands revealed. We are not now archæologists, but architects, living in the age of our building. We stay here several hours, studying each detail of its organism, comparing the proportions of column and entablature with those of the Parthenon, drawings of which we have brought with us. Then we visit the neighboring Basilica and Temple of Ceres, thinking over the chain of centuries that connects the past with the present. An old shepherd passes with his dog and flocks, and we realize that his type is all that remains of that primitive civilization. Our return trip to Naples leads us along the magnificent highway to Amalfi, with Ravello on the mountain above it, and across on a boat to Capri, thence back to Sorrento, and Castellamare. At Naples we go to the museum and look only at the few Greek statues and the collection of vases. Here our method of study is to begin with the Greek originals or ancient copies, and take the rest in turn. In this way we make sure of our first impressions instead of enervating ourselves before hundreds of mediocre and promiscuous works. Before leaving the museum we return to the masterpieces. We are astonished to find them even more beautiful than at first, and readily understand why they are unique. There are few fine Greek statues in Naples, so after looking at the Greek bronzes and excellent painted frieze from Pæstum of warriors departing for battle, we leave Naples for Sicily.

The Florio-Rubattino steamer leaves at 8 P. M., and in the morning we find ourselves at Palermo. The museum contains the recently discovered metopes of Selinus, whose archaic character shows that sculpture was less well developed than architecture at that period. The various political changes of Sicily have left their stamp on the architecture of Palermo, and our study of early Greek work is interrupted by our admiration for the mosaics in the Capella Palatina, Monreale and Martorano, and the Cathedral at Cefalu. Segesta is next on our route; and the unfinished Doric temple is best reached on horseback from Calatifimi. The same day we go on to Selinus, where the grand temples on an eminence overlooking the sea give us our first conception of an acropolis. A prostrate Atlantis lying near the Temple of Zeus is the sole remaining giant inhabitant of Girgenti, which Pindar called "the most beautiful city of mortals." In the rock-cut theater at Syracuse, we imagine Greek actors in a classic tragedy, and listen to

SANTA SOPHIA, CONSTANTINOPLE.

reverberating echoes in the Ear of Dionysus. The height of enjoyment in our Sicilian tour is reached at Taormina. We are attracted by the great beauty of its situation, its romantic history, its charming Greek theater facing Mt. Etna, and no less by the modern luxuries at the hotel on the site of an ancient monastery. We leave Sicily at Messina for Piræus, and land almost in sight of the Acropolis of Athens, reaching the first goal of our journey with minds prepared to appreciate the epitome of architecture.

Our first duty is to review Greek history and refresh our memories on Greek mythology and art, reconstructing

INTERIOR OF SANTA SOPHIA, CONSTANTINOPLE.

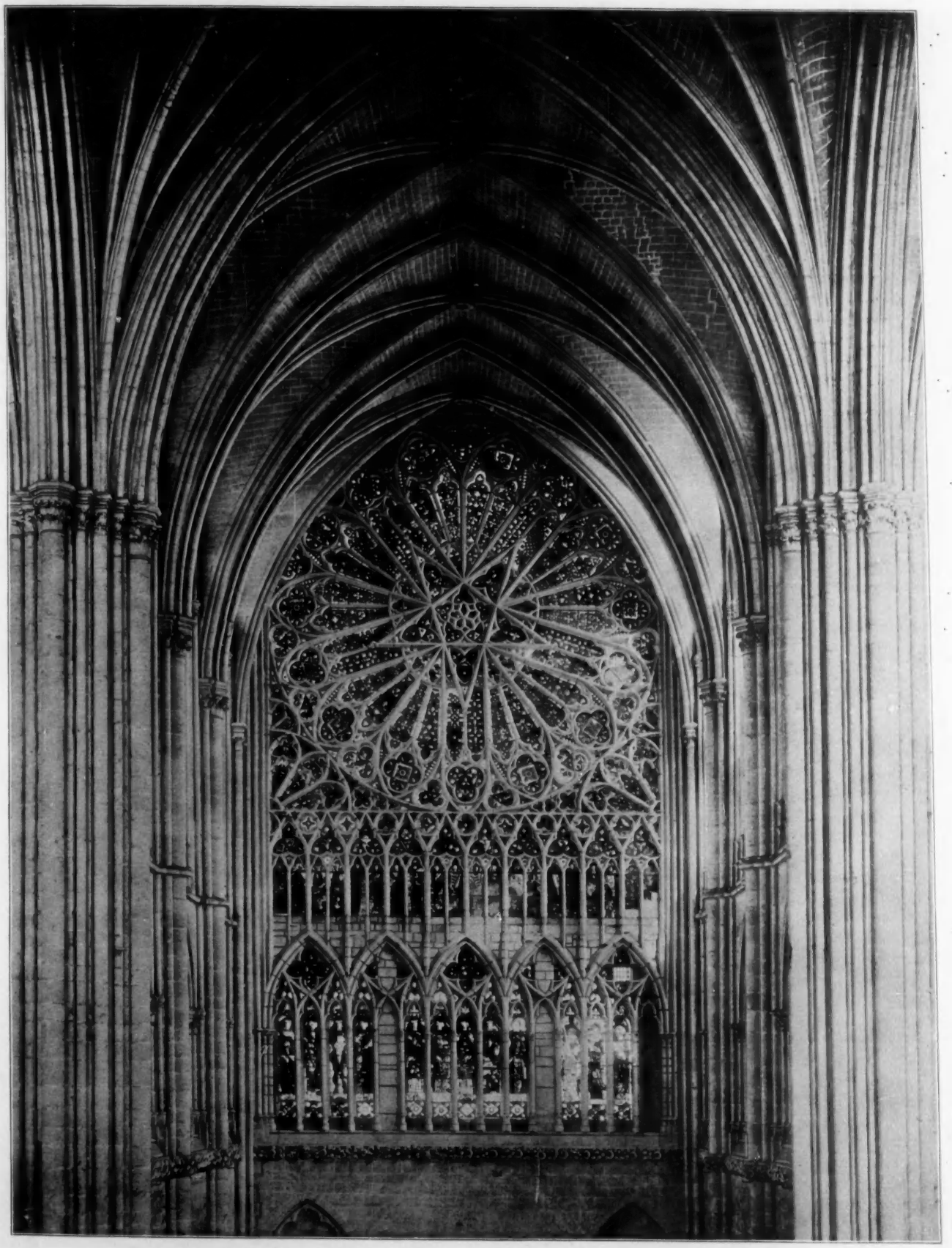
from plans and restorations the temples and monuments, and from history the country and civilization. Then days and weeks may be spent in Athens in noting the careful workmanship, and in sketching the delicate forms and noble disposition of masses with which the Greeks stamped their personality on their work. Constantinople is easily and quickly reached by various lines of steamers from Piræus. An added inducement to visit this city, whose cathedral is dedicated to holy wisdom, is offered by the Greek sarcophagi recently discovered at Sidon, and now in the museum here. Concerning the Alexander sarcophagus, which dates from the fourth century, B. C., and is the most beautiful and best preserved of the group, Gardner says, "No one who has not seen this sarcophagus can realize the effect produced by a correct and artistic application of color to sculpture." Santa Sophia is the Parthenon of Byzantine architecture. Its dome is as vast and as lightly suspended as ever; but infidel hands have covered the golden mosaics, and the huge green shields on the four corner piers announce

RESTORATION OF THE ROMAN FORUM.

that Allah is God, and Mohammed, His Prophet. The turbaned guide, in recognition of the dollar just paid him, points a scornful finger at the Christian cross, dimly showing on the vaults; but neither the frenzied devotion of the Dervishes, nor the magnificent spectacle of the Salamlek, is enough to convince us, as we leave the Golden Horn, that one day the ancient mosaics shall not again appear.

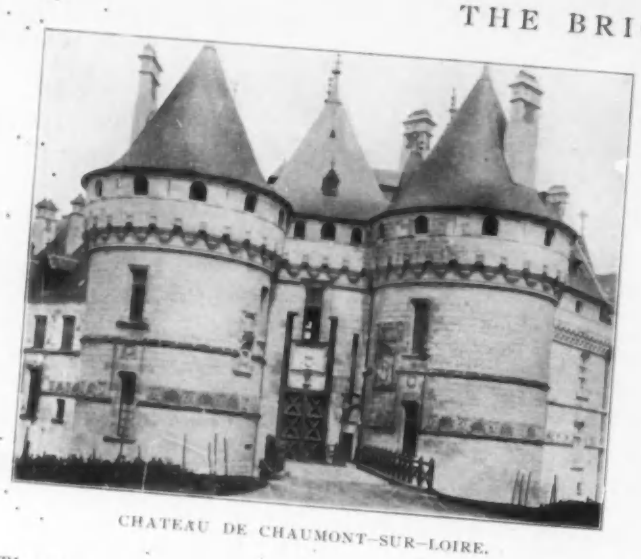
Returning, we leave the steamer at Piræus and cross Greece by train, first making a short trip in the interior to Corinth, Argos, and Mycenæ and Epidaurus; then on to Olympia, and leave Patras for Brindisi. From Greece the course of empire took its way westward. Rome was the arena of the centuries intervening between Athens and Byzantium, and Pompeii is the intermediate step.

PORCH OF SAINT-TROPHIME AT ARLES, PROVENCE, FRANCE.



TRANSEPT WINDOW, AMIENS CATHEDRAL, AMIENS, FRANCE.

UNIV. OF MICH.



CHATEAU DE CHAUMONT—SUR—LOIRE.

The newly excavated house of Vetius, with its architecture, sculpture, mosaics, frescoes, fountains, and gardens, is a well-preserved example of the architecture of the time. Already we can see evidences of the conquerors. In imagination we turn from the festal procession, filing around the courtyard of the Temple of Apollo and past the statues of Greek cult, to greet another procession entering under the triumphal arches in the Forum; and before the greatest temple, that of Jupiter, listen to Roman orators extolling the god of their victorious arms. Later the gods were forgotten, and statues of conquering emperors occupied the sacred pedestals, bearing the attributes of Jupiter.

In Rome all our ingenuity is taxed to carry out our chosen program. We must conscientiously go to the Forum and the Palatine Hill, to Hadrian's Villa and the Baths of Caracalla, and out on the Appian Way, with Lanciani's works and photographs of restorations in hand, until classic Rome is completely before our minds. We will go to the Lateran Museum on the day that the pagan sculpture is exhibited and view the remnants of a decadent art whose zenith we have already seen, and then to the Colosseum, where, amid the prayers of dying martyrs, the bloody fabric of Rome fell, and the dawn of a new era appeared.

Much has been written of this most interesting period in Roman annals; and before beginning the study of early Christian art we need to become acquainted with the social conditions. There is no better book than "Quo Vadis" to gradually awaken our pagan conscience to receive the new revelation. We must commence our study with the catacombs and the early sarcophagi in the museums, and find the beginnings of the new art as debased as the decadence of paganism. The refined proportions of Greek statues and the rounded muscles of the athletes failed to interest the believers in the new doctrine that the body is nothing, the soul everything. Rome has many churches which show the earliest experiments in Christian architecture, but not until Constantine had removed the seat of empire to Byzantium was anything of value produced. Then, gradually, artists became accustomed to using colored mosaics for walls and ceiling, and representing their figures in garments of Oriental splendor. In the churches of S. Paolo Fuori, Sta. Maria Maggiore, S. Lorenzo, Sta. Agnese, Sta. Maria in Cosmedin, S. Clemente, etc., we see the gradual growth of the basilican type. The abundant fragments of ancient ornament in porticoes and cloisters represent Eastern as well as Roman motives. The churches of Rome, together with those in Tuscany, carry us across the abyss of mediæval art in Italy up to the fourteenth century.

In the latter part of the fifteenth century we see the Renaissance, after which the baroque and rococo sprang up like mushrooms. The villas of the popes and the palaces of noble families next invite our attention. With Renaissance architecture we begin to reap the benefit of our systematic study. Like the architects of the fifteenth century we are familiar with the monuments of ancient Rome, and we can find in the baths and tombs of Rome and Pompeii the precedents of the details of the columns, caps, and moldings, of the colored stucco decoration of ceilings and pilasters, and of the appearance of pagan gods and goddesses as motives of ornament.

Rome possesses unlimited wealth of artistic treasure. Permissions to work in the museums, galleries, or public buildings are readily granted to students, and it is vain to expect to find in Italy a more fruitful place to study. Rome is the architectural Mecca of Italy as Paris is of France.

The pursuit of our course of historical study north of Rome is a simple task. We have already found painting and sculpture inseparably connected with architecture. It is only in modern times and owing to the complex conditions of life that they have formed distinct branches and grown out of sympathy with architecture and with

FACADE OF THE CHAPEL, VERSAILLES, FRANCE.

each other, much to the detriment of the greater art and more so of the lesser arts. Not until they shall once more be in unison, can we expect to see works like those of the old masters who worked in all three branches as one art. In the galleries of Perugia and Florence the works of each school are admirably arranged to give one an understanding of their characteristics; and we trace the influences of masters upon pupils in chronological order, fixing in our minds ineffaceable memories of favorite pictures.

The palaces of Florence are a distinctive expression in architecture of an age and social condition. Family feuds were incessant, and the nobles erected huge two-story structures reaching the height of a modern ten-story building. The bravado Cellini, recounting his exploits, could give a no more vivid picture of the times than did the architect by the character of these buildings. Historically, they succeeded a style whose masterpieces were for religious or civil purposes, which hitherto had been the domain of architecture. Before leaving Florence, we will make excursions to Lucca, Pistoia, and Pisa, and to the surrounding country and hills.

From Florence we go to Venice, and thence westward across northern Italy to Genoa. Padua, Verona, Mantua, Cremona, Piacenza, Milan, and Pavia were important centers in the development of Lombard architecture in the eleventh and twelfth centuries. We are following the route the Eastern merchants took when Ravenna was one of the important ports of southern Europe, and Eastern architectural influence, as well as Eastern stuffs, was carried across Italy and the Riviera into France and Spain.

We enter France through Provence, and become acquainted with the charming Romanesque of Arles, Nîmes, and Avignon, where sculptured apostles and saints struggle to preserve their identity amid classic Roman details, in the porches of St.-Trophime, St.-Gilles, and Notre Dame des Doms. Byzantine influence spread north into Aquitania, and appears in St. Front at Périgueux, which copies the plan but not the vaulting of St. Mark's. At Cahors we find an imitation of St. Irene at Constantinople.

In central France the development of church vaulting began, and we must take Viollet-le-Duc, Corroyer, and Moore for our guides if we wish to intelligently follow the successive steps in the growth of Gothic architecture. The theory and general principles of this style may be already well understood, but their application is best comprehended by observation. There is no more interesting literature on architectural history than that relating to this subject. The stupendous cathedrals are miracles in stone, wrought by the religious enthusiasm of the people, as well as marvelous examples of an architectural style, which, in attempting to solve a structural problem, resulted in a harmonious and organic system of construction and decoration. That there is as much both in detail and in composition to be learned from the Gothic architects as from the Renaissance masters is certain; while certain parts, as for instance, the north door of the Notre Dame, in Paris, can be compared in artistic beauty to Greek proportion and refinement alone. Whether because our modern civilization is more like the Grecian, or because of our academic training and classical tastes, the architecture of the earlier race seems nearer to us in point of time than does the Christian architecture of the Middle Ages. Whatever may be the architectural "mode" for the present, both the Greek and the Gothic should be carefully studied as they are exemplification of our first statement concerning theory and practice in architecture.

Besides the cathedrals in the Royal Domain, those of Normandy, Burgundy, and Champagne are most worthy of study, and easily reached by train or bicycle. Wheeling has many delightful advantages and attractions, and the Loire valley with its many châteaux is one of the most interesting routes.

It is impossible to write of an architect's itinerary without an enthusiastic mention of the student's advantages at the École in Paris. The previous travel and systematic study of the architecture of the past will only be an added inspiration in the solution of the ideal problems. The months, or even more fortunate years, of study in Paris necessary to get the diploma will be pleasantly varied by summer vacations in Switzerland, Germany, or Holland.

We have purposely made Spain the last country to be visited on the continent. In historical value the Romanesque and Gothic churches do not differ greatly from contemporary French examples which served as models for many important buildings. The detail was even richer, and the façades more ornate, but with a lack of logic and constructive qualities found in France. The Alhambra is the masterpiece of Spain, and its gorgeous color decoration, the stalactites, and intersecting lines of geometric patterns are all reminders of our first acquaintance with Palermo, where the Christians conquered the hated moslems, but copied their architectural style in their churches.

From Gibraltar we will sail to England, and continue our study on a bicycle trip, as the beautiful country with its fine old houses and churches is the chief attraction. Letters of introduction are almost a necessity in order to gain admittance to most estates, but the utmost courtesy is generally shown to students. There are too many tours possible through England to make it necessary to advocate any one especially. What is most important is to know beforehand what one wishes to see, and locate it on the map, for the most interesting houses and gardens will otherwise be passed by unseen.

In keeping with the domestic architecture of England is the modern movement in textile arts, etc. in London, which, while productive of much that is purely commercial, is also one of the most hopeful signs of modern times. The different societies working to produce harmony in the allied arts deserve greatest support and encouragement from architects especially; for the successful results of united efforts by painters, sculptors, and architects will be most beneficial to architecture in general.

We have received the catalogue of the exhibition which was held in the Carnegie Art Galleries by the Pittsburgh Architectural Club. All can be said of this catalogue that has been said of previous exhibitions, and it is certainly no small praise to say that it holds its own very favorably with the showing of the New York and Philadelphia exhibitions.

The Designing and Planning of Small Railroad Stations.

BY ALFRED HOYT GRANGER.

IT is only within the past few years that the great railroads in the Middle and Western States have deemed it necessary to employ an architect upon their smaller stations. Heretofore, the engineering departments prepared plans and specifications for all but the large city

GENERAL WAITING ROOM, STATION, CLYBOURN JUNCTION, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

terminals. Mr. Richardson, by demonstrating to the traveling public how beautiful and appropriate a small station can be, inaugurated the change, and now we see on many of the great lines, notably the Chicago and Northwestern, the Chicago, Milwaukee, and St. Paul, the Rock Island, and the Burlington, stations either fulfilling or striving to fulfil the architect's dream of beauty and appropriateness. One of the most hopeful characteristics of our American people is its passion for perfection in whatever it undertakes, and in this passion lies the greatest hope for our architecture. Just at present we are apt to be led astray by a desire to reproduce some of the beauties of Europe in new and strange surroundings and for stranger purposes. Such reproductions can never take root or be anything more than exotics, and our practical Yankee common sense will soon lead us past this transition stage. In railway station building the require-

STATION, CLYBOURN JUNCTION, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

STATION, CLYBOURN JUNCTION, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

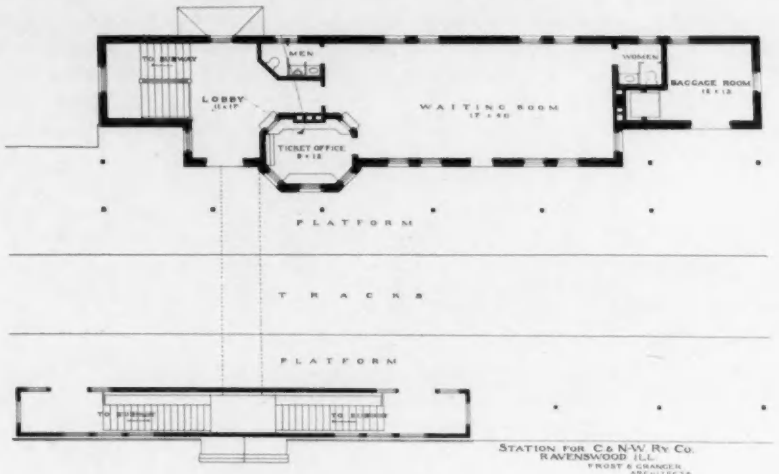
ments, while simple, are iron bound and are fast making an established style for such work. In this paper it is my purpose to speak only of the town or country station which requires a totally different handling from the city terminal. The plan, as I said above, is a very simple one.

The main requirements are waiting rooms, women's retiring rooms, lavatories, ticket office, telegraph office, baggage and express rooms.

If the station is to be built in a manufacturing town, it is necessary to have two waiting rooms of equal or

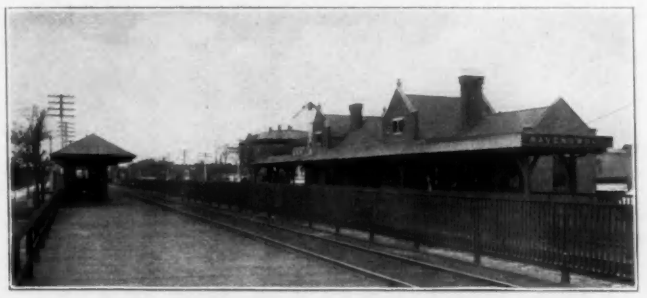
STATION, RAVENSWOOD, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

nearly equal size, and both must command the track so that the passengers may have every warning of approaching trains. The old plan of having a ticket window in each room has been generally abandoned, and large ticket windows are located in a lobby or ante room between the two waiting rooms and facing the entrance vestibule. In this arrangement the traveler can purchase his ticket when entering the station, and after doing so can sit in either waiting room without worry until his train arrives. Each waiting room must have convenient lava-



STATION FOR C. & N.W. RY. CO.
RAVENSWOOD, ILL.
FROST & GRANGER, ARCHITECTS.

tories and ample exits upon the platforms. These exits should be planned to leave a portion of the room retired and free from draughts, and the entrances and exits should be so placed that the waiting rooms are not mere passages, but allow for passengers plenty of space for quiet waiting, free from the annoyance of constantly



STATION, RAVENSWOOD, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

passing crowds. A drinking fountain is a desirable feature in a waiting room, and with proper study can be truly a thing of beauty. In the better class of suburban stations, ofttimes the plan of a large general waiting room, with a small retiring room for women at one end and a corresponding smoking room for men at the other end, makes a simpler and more interesting building. In such

SHELTER STATION, HIGHLAND PARK, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

stations a floor of large red tiles in the large waiting room is both beautiful and practical. The ticket office should be located on the platform side of the station that the telegraph operator may command the trains. In many cases it is necessary to have a small room off the ticket office for a train order room, which keeps all employees out of the waiting rooms. The baggage and express rooms are preferably located towards the larger terminal. If these rooms are separated from the main station by a covered passage 30 to 40 ft. in length, ample space is given for handling baggage even at times of extraordinary travel. This covered passage, carefully handled, becomes a most pleasing architectural feature. As a railroad station is primarily a shelter where people may wait for trains, this characteristic should be emphasized in the design. The waiting rooms should be very open to the light, while, at the same time, all piers should be even unduly heavy to counteract the constant jarring of passing trains. For similar reasons the design of a station should depend upon simple and dignified proportions for its beauty, as much ornamental detail is manifestly out of place. If the town in which the station is to be located has any marked characteristics, these may rightly be indicated in the design. The material of the station is also ofttimes governed by the locality. For example, the station at Oconomowoc, Wis., on the Chicago, Mil-

STATION, HIGHLAND PARK, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

waukee, and St. Paul Railroad, is built of split granite boulders as is the one at Hartland, Wis., on the same line, because they are found in large quantities in the vicinity. Unless, as in the two cases just mentioned, stone abounds in the immediate neighborhood, brick is the best material to be used. When the station is a brick one, it is not advisable to use much stone, as an all brick building is more consistent and, consequently, more architectural. In the past three years a new problem has arisen in and around Chicago because of the elevating of all the tracks. This necessitates two buildings: one the station proper directly accessible to all trains towards the city, with an auxiliary shelter and small baggage room for outgoing trains on the opposite side of the tracks. I show illustrations of three stations of this

character: one at Ravenswood, Ill., one at Highland Park, Ill., and one at Clybourn Junction. In all stations of this character, the two buildings are connected by subways under the tracks. These subways are broad tunnels, lined with enameled brick and lighted by electricity. The station at Clybourn is an "island" station, with tracks on both sides, and serves as a transfer between two main divisions of the Northwestern road. It is located centrally between these divisions, with tiny shelters covering the stairways to the outer tracks. These three stations, and some others which I show, are more suburban and, consequently, have no lunch room facilities. Where

STATION, WINNETKA, ILL., CHICAGO AND NORTHWESTERN RAILROAD.

STATION, PEWAUKEE, WIS., CHICAGO AND NORTHWESTERN RAILROAD.

lunch rooms are needed they should be so placed that every table and the larger part of the lunch counter may command the tracks, as otherwise many a hungry traveler will suffer untold worry through fear of losing his train. It is also desirable that the lunch room should not communicate directly with the waiting rooms in these smaller stations because of the flies and odors from cooking.

The location of the station is a matter of considerable importance, and depends largely upon the character of the town in which it is to be built. In city suburbs, where there is a daily going to and fro of many people, it is desirable that the platform sheds should be placed close to the tracks so that passengers may be protected from the weather when getting on and off trains. Some railroads place the stations 30 or 40 ft. away from the tracks, but this is not desirable except in isolated points from which there is but little travel. Most smaller stations belong to the side-house character, with through tracks upon but one side of the building; hence the platform shed should be long enough to afford shelter to all the traveling public. Much stress is being laid these days upon the landscape effects around stations. The love of the beautiful is born in every man and grows with his opportunity for satisfying it. The more beautiful the surroundings of any building are, the more satisfactory is that building bound to be. Some roads embellish their station plats with numerous beds of gay flowers. This form of adornment seems, however, to be more adapted to a lady's garden, and is not to be recommended. The most suitable and practical results are to be obtained by the planting of shrubs and bushes which do not have to be renewed each season, but steadily increase in value. Where the land allows it, the station should be approached on its town side by broad roadways, skirting the building so that many carriages can approach at the same time. These roadways when bordered with clumps of flowering shrubs are of great beauty, and give untold value to the architecture of the building. Where the character of the station and the climate allow it, plants of ampelopsis or Boston ivy should be set out when the grading is done, as they form the greatest embellishment. There is very little diversity in the plans shown as illustrative of this paper, but in almost every town where a station is needed there is some peculiar local point which makes the problem interesting to a designer, and equally interesting, we hope, to the traveling public, for whose use these stations are built, and upon whose criticism depends their real architectural future.

STATION, BELOIT, WIS., CHICAGO, MILWAUKEE, AND ST. PAUL RAILROAD.

A BRICK chimney, 160 ft. high and 8½ ft. square at the base, and 4½ ft. diameter at the top, has been overthrown in St. Louis by the use of hydraulic jacks, says the *Engineer*. The chimney was first undermined on one side, and three 10-ton hydraulic jacks were placed in position under the side. A hawser was then fastened about the chimney, 60 ft. from the ground, and ropes led from this hawser to crabs placed at a distance of about 100 ft. With eight men at each crab and men at the hydraulic jacks, the chimney was slightly lifted and pulled at the same time; the men at the jacks left their posts at the first warning crack, but those at the crabs continued their work until the chimney fell. — *Scientific American*.

"The Brickbuilder" Competition. II.

COZY CORNER AND FIREPLACE IN THE LIBRARY.

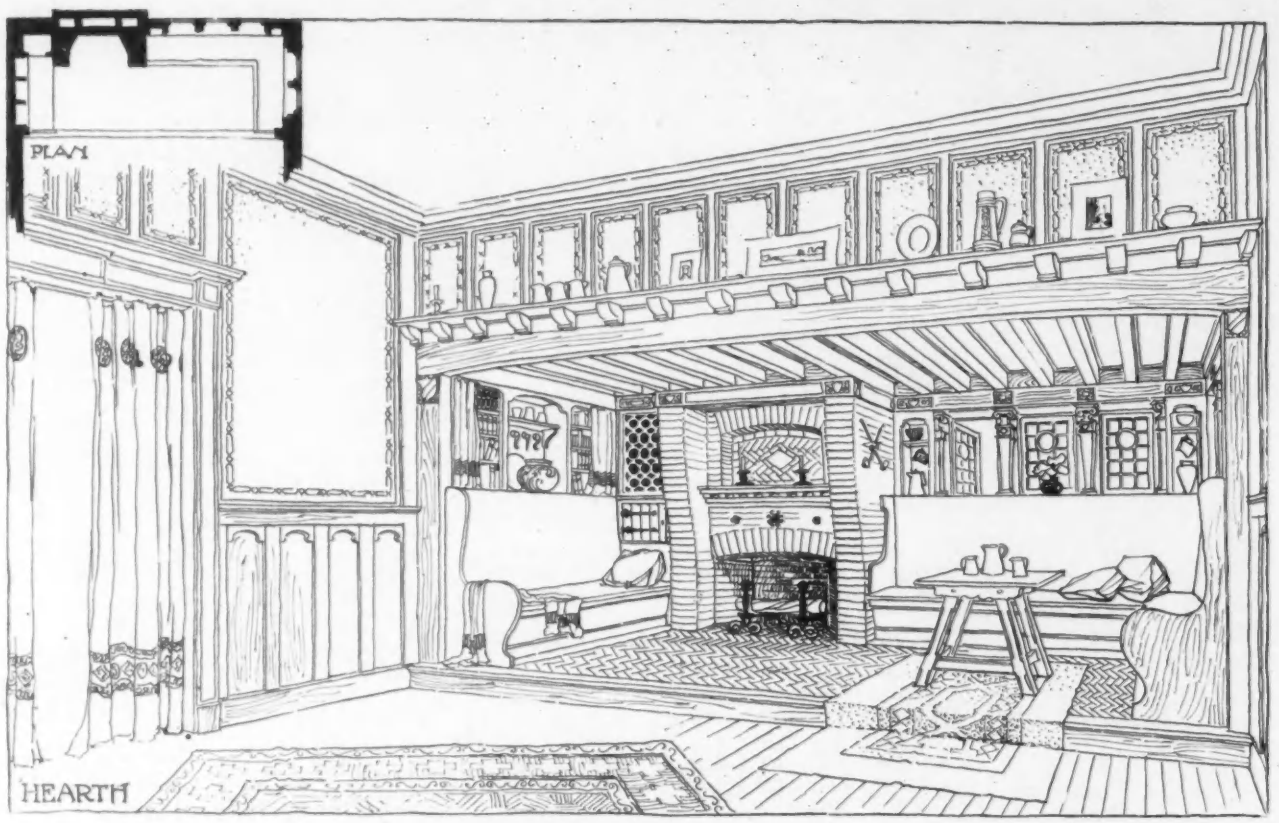
CRITICISM AND AWARD.

BY GEORGE D. MASON.

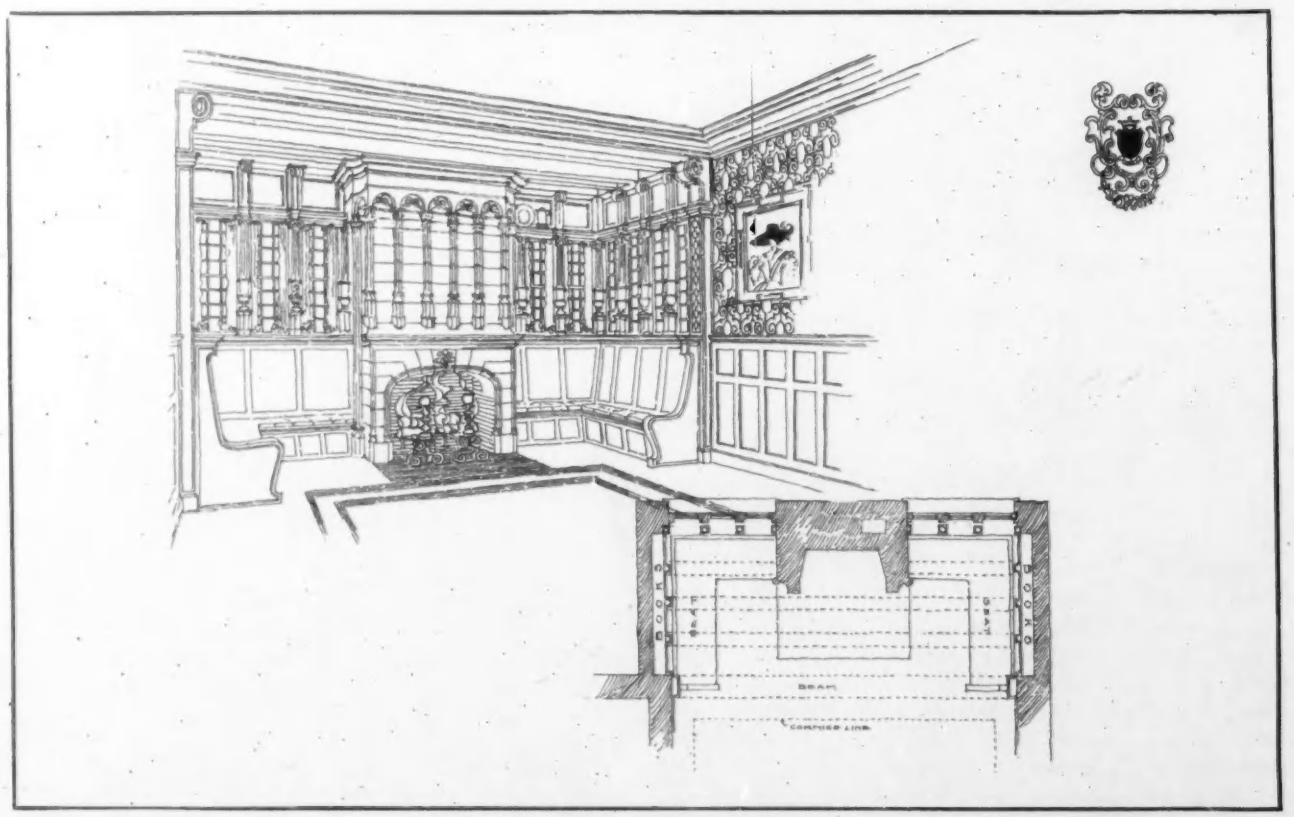
LOOKING backward and reviewing the changes in character which have from time to time come over buildings in America, it is surprising to note the number of evil influences which have been brought to bear upon what is called American architecture. It was well born, but during the period of carpenters' classic, grew into degeneracy, and has since suffered from periodical attacks of virulent disease, which occur about every ten years, growing worse each time. The cause of these outbreaks is generally the importation of an alleged architectural style which is not suited to the conditions of life existing in America, and this "style" is worked out only in caricature. This is true of the early Italian, Mansard, Victorian Gothic, Romanesque, Italian Renaissance, and the present fever — English (?).

It is unfortunate that architects of fifteen years ago mistook the terms "rock-face" and "Romanesque" to be synonymous; equally unfortunate that those of ten years ago believed a draughtsman capable of drawing an arabesque-carved panel to be a consummate master of the style of the Italian Renaissance. Such has been the case, and the fault is still with us, as is evinced when we see the angular, unsightly buildings, with even more unsightly interiors, which are being erected all about us, and which we are blandly informed are "English"! Not the "English" of Norman Shaw, of Arnold Mitchell, of Leonard Stokes, or of Ernest Newton, but of the sort that is illustrated in "The Studio," etc.,—an architecture minus composition, proportion, and detail, sometimes decorated with trees growing up from the base and held in position by a picture molding; often they resemble the arm and leg bones of a human being, with ends covered by a species of crinkled lettuce leaf. This is the style which has influenced many of the designs entered in this competition.

FIRST PRIZE DESIGN.
WALTER E. RICE, BOSTON, MASS.



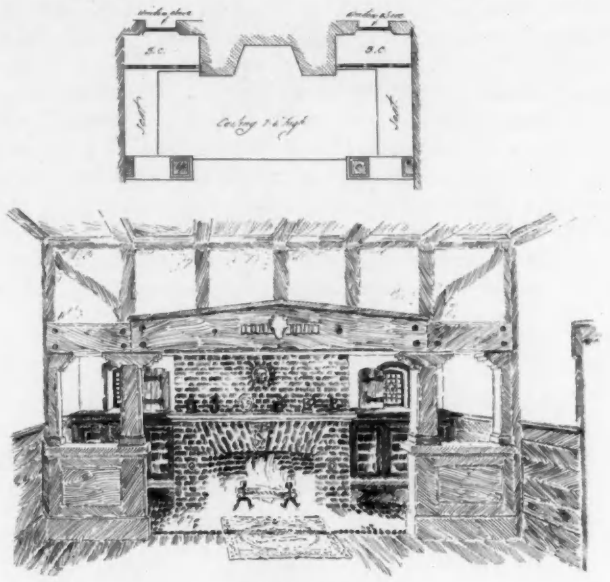
SECOND PRIZE DESIGN.
WILLIAM L. PHILLIPS, ROCHESTER, N. Y.



THIRD PRIZE DESIGN.
JOHN STAFFORD WHITE, ST. LOUIS, MO.

UNIV. OF MICH.

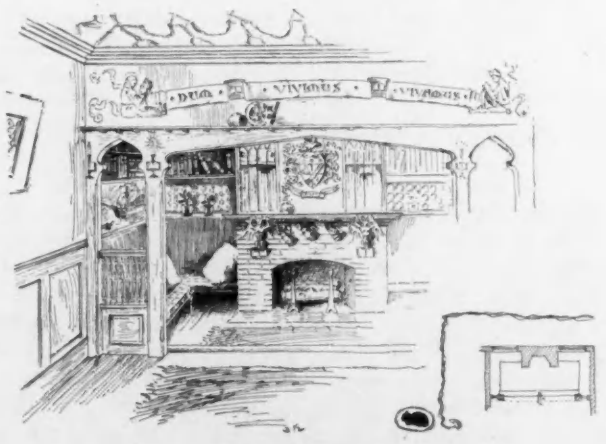
There was but little difficulty in deciding which drawing to place first. "Poor but Needy," while stiff in general effect, has in some respects a homelike character. The seats are broad and comfortable looking, the mantel is well proportioned, and in a colored faience or terra-



MENTION.

G. A. Frost, Toledo, Ohio.

cotta could be developed into a pleasing design. The treatment of the ceiling and general lines of the room are consistent. The handling of the window is commendable for its simplicity; the cusped and pointed panels above the mantel shelf should have been omitted — at least over the picture. The wide projection to the sides of the mantel shelf and the large hinges to the cupboard doors would make the seats next the fireplace uncomfortable. The beam and post treatment which separates the

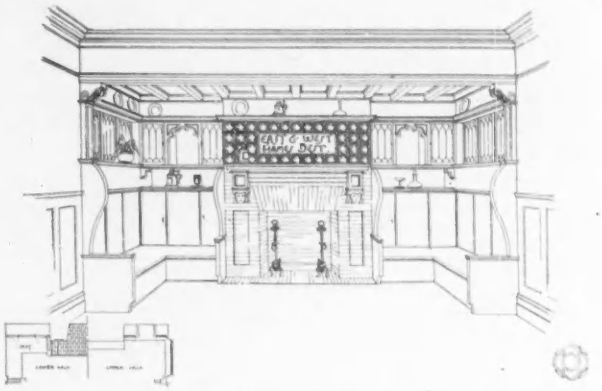


MENTION.

Allen Winchester Jackson, Cambridge, Mass.

nook from the main room is suggestive of a porch to a cheap seaside cottage.

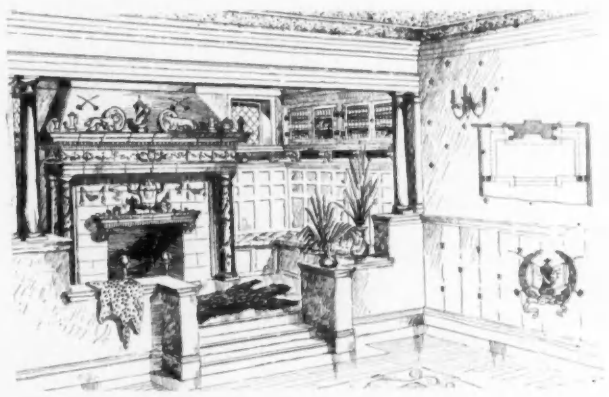
"Hearth," placed second, is the most interesting drawing submitted. It is precisely what is called for, and had it not been for the ugly fireplace and bulky detail between the windows, it would have been given



DESIGN SUBMITTED BY CHARLES F. HOPPE, NEW YORK CITY.

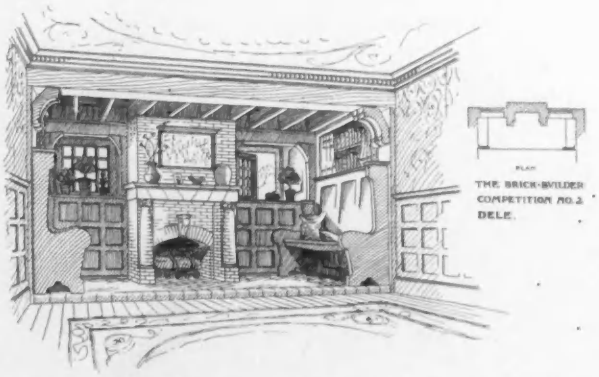
first place. The arrangement of pottery, pictures, etc., as well as the decorative way in which the drawing is presented, indicate that it is the work of an artist.

There are three designs which claim consideration in



DESIGN SUBMITTED BY HAMILTON MURDOCK, SAN FRANCISCO, CAL.

arriving at a decision as to third place,—"Beauvis," "Escutcheon," and "Black Cat." Of these, "Escutcheon" is the most interesting; but as in the design marked "Hearth," which, in drawing, it closely resembles, the

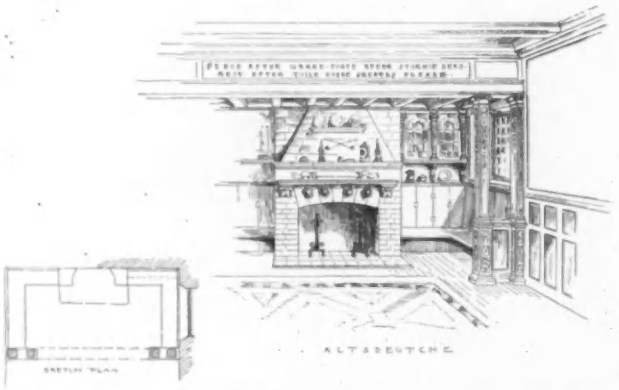


DESIGN SUBMITTED BY GEORGE P. KIEFER, MILWAUKEE, WIS.

mantel is displeasing. It is of a type that does not look well in terra-cotta or brick. The seat ends are awkward and the line of molding carried across under the windows seems

DESIGN SUBMITTED BY HUGO H. ZIMMERMANN, CHICAGO, ILL.

designed to fracture the skull of the person occupying the seat. However, with some modifications, this design might be placed in the hands of a good detailer and made to look well, and is considered entitled to third place. The most interesting feature of this design is carrying the window treatment over the bookcases, which at first



DESIGN SUBMITTED BY A. RAYMOND ELLIS, ALLSTON, MASS.

glance are not apparent in the perspective. "Beauvis" is an instance of what might have been if the designer had given his subject a little more study. Increasing the distance between the top of pedestal and underside of beam, and substituting columns for the square sup-

DESIGN SUBMITTED BY ANDREW P. COOPER, UNIONTOWN, PA.

ports, would have greatly improved this design. It is free from the influence of fads; and if its author had as good an eye for proportion as for constructive effect it would have been placed high. To this design is awarded first honorable mention.

"Black Cat" is fair in idea and better in proportion than "Beauvis"; it is similar to "Poor but Needy" in having large comfortable seats, but inferior to the latter in every respect. How did "Black Cat" expect to support that segment over the fireplace? He would have done much better to have used an arch and omitted the gargoyles, evil geniuses, or whatever they may be, that appear to be springing out of the brickwork. The proper use of color might produce a "cozy corner" out of this design, and it is considered as worthy of mention.

"Dele" and "King Philip" are interestingly drawn, but possess no merit whatever as designs. "Quartre-

DESIGN SUBMITTED BY F. C. NIROUS, MEDFORD, MASS.

foil" has a sensible brick and terra-cotta mantel, but the balance of his design is an example of what not to do. "Wreath and Pipes" shows a design such as one sees in the catalogues of brick manufacturers; but if the ornamentation had been omitted from the mantel this design would have been awarded a third mention. Of the other seven designs, none are worthy of serious comment.

WE are in receipt of Vol. XIV. of the "Technograph," published annually by the Association of Engineering Societies of the University of Illinois, one of the most interesting of a series of technical publications which is added to each year by our scientific schools. This number, the contributions of which are entirely from those connected in some manner with the University, contains several interesting and valuable papers, notably one on the manufacture of terra-cotta and its use as a building material, by H. A. Webber; and another by Newton A. Wells on the technical acquirements and difficulties of mural paintings, this last article being illustrated by photographs of the painted decorations made by Mr. Wells for the library of the University. The publication is obtainable at the University at a cost of fifty cents.

Fire-proofing.

SOME INCONSISTENCIES IN MODERN FIRE-PROOF DESIGN.

BY J. K. FREITAG.

IN defining the word "fire-proof," the Century Dictionary states that "buildings are rendered fire-proof by the exclusive use in their construction of non-combustible materials, as stone, brick, iron, cement, concrete, and asbestos." To the non-technical reader, this definition may answer about as well as a more specific one, but for those vitally interested in fire-proof construction, a more comprehensive, or rather a more accurate definition is to be desired.

In the first place, fire-proofing can not be accomplished merely through the use of incombustible materials; and, furthermore, the enumeration, without further qualification, of stone, iron, and cement as constituting materials producing fire-proof results, simply because they are incombustible, is certainly misleading and must be seriously objected to as applied to building construction.

A more satisfactory definition could be made as follows: Buildings are rendered fire-proof by the exclusive use in their construction of such materials as are themselves proof against serious damage by fire and water, or by the use of materials which are amply protected by fire- and water-proof coverings.

In the light of present knowledge, however, even this extended definition is not sufficient to define properly the ideal of fire-proof excellence, — for, in all things, an ideal must be set toward which all efforts tend, and through such striving alone improvement can be made possible.

Ordinarily, the investor considers his structure fire-proof even in the highest degree of excellence, simply because the building has been provided with a framework of iron and steel, brick surrounding walls, terra-cotta or concrete floor systems, and possibly terra-cotta partitions. To such satisfaction, based on the elements mentioned, justifiable criticism may be offered. If, then, the commonly accepted dictionary definition is criticised, and the prevalent estimation of fire-proofing qualities is questioned, the query: what is meant by the word "fire-proof" when used in connection with building construction, requires a satisfactory answer before inconsistencies of fire-proof design can be discussed.

If by the term "fire-proof" we mean simply that a structure will not collapse after passing through the ordeal of fire, the word has already been sufficiently defined. The employment of incombustible materials which will offer sufficient resistance to fire and water to still allow them to perform their load-carrying functions, will secure this result. But ideal fire-proofing must include other requirements no less important than mere stability. The structure must not only be incapable of collapse, but *a minimum damage must result*, not alone to the building itself, but to the contents as well; and to these requirements must be added all possible protection to insure the safety of the lives of those within the structure.

For the building proper, the first question after damage by fire is that of reconstruction. Facility in this direction means gain in time and hence in renting value, as well as the decreased cost of repairs through the original employment of materials which suffer but little damage under the test conditions. The amount of reconstruction depends upon the extent or area of the fire and water damage, as well as upon the intensity of the test. If the fire is successfully confined to one apartment, it is probable that the intensity as well as the extent of the damage will be a minimum, for the volume and intensity of fire are vastly greater in large areas than in small ones.

Respecting the contents, it is to be presumed that their actual value to the owner is in excess of their insurance value. In the case of mercantile buildings or department stores this is apt to be especially true, as the destruction of the contents may involve vast business interests, at busy seasons, which could be but very partially covered by insurance values. Here too, then, the ideal fire-proofing means the absolute minimum of damage to contents by either fire, water, or smoke, to insure continuation of sales in the case of a mercantile building, or the continued use in the case of an office building or hotel, of such portions of the building as were not directly reached by the fire itself.

As to the safety of human lives, it is reasonable to presume that the sense of security in a building, on the part of either inmate or visitor, would constitute a recommendation for popular favor, an item not to be overlooked in the commercial value of the premises. From a humanitarian standpoint, also, regardless of commercial value, the utmost safety to all human life must enter into ideal conditions. The stringent municipal regulations in regard to theatre construction and exits are so familiar as to need only mention of the fact. The audience varies from one thousand to possibly three thousand in number, while the real danger lies not in the auditorium, but in the stage, which is cut off from the audience by brick walls and asbestos curtain. For such gatherings the ordinary municipal building ordinance lays down exacting requirements as to construction, design, and equipment, in spite of which such rapid destruction as was exhibited in the recent burning of the Théâtre Français in Paris is possible. The following is taken from a newspaper account of the burning: —

"It was, however, only a matter of an hour that saved Paris a repetition of the Opera Comique catastrophe, as a crowd of women and children had already gathered at the doors, awaiting the opening for the matinee, when the alarm was raised. Had the performance begun, few probably would have escaped, owing to the rapidity with which the flames spread, settling the fate of the building before the firemen could even get to work.

"Meanwhile the fire brigade had been summoned, but twenty minutes elapsed before the first detachment arrived, and then only hand pumps were brought. Finally steam pumps came; but then it was found that no water was to be had. It was 12:45 P. M., nearly three-quarters of an hour after the alarm was raised, before an adequate stream of water was poured into the burning building, which, by that time, was quite beyond help."

The loss of life would undoubtedly have been very great had the fire occurred during the performance; yet all

large cities undoubtedly contain hotels, apartment houses, or large department stores where even eight or ten thousand people may be in the structure at one and the same time, but where provision for the safety of such crowds has been passed over with but slight consideration.

From the argument, thus far, it follows that a comprehensive definition of "fire-proof" construction should embody not less than the following points: —

I. (*a*) The exclusive use in construction of materials which are in themselves proof against serious damage by fire and water, or the use of materials which are adequately protected by fire- and water-proof coverings.

(*b*) The materials employed must permit of easy reconstruction.

II. The internal plan or design must be made with especial reference to preventing communication between floor and floor, and between different portions of the same floor.

III. The exterior design to be such as to prevent the communication of fire from or to adjoining structures.

From these requirements, it will be seen that fire-proof construction is a matter of rational and scientific design or planning of all the general features of a building, as well as the matter of detail in regard to the materials employed and the precise methods of their employment.

Owing to the rapid development and general use of the terra-cotta and concrete systems, requirement I. is now very largely fulfilled; but in spite of our present extended knowledge and most valuable experience, gained through the costly demonstrations afforded by many notable fires in what have been generally recognized as fire-proof buildings, many traditional methods and details of construction are still employed which constitute flagrant inconsistencies of rational fire-resisting design.

The persistent use of wood in connection with present attempts to produce ideal conditions is somewhat remarkable, and decidedly inconsistent with past experience. By this, the judicious use of limited quantities of interior trim and finish is not referred to, but rather the decidedly injudicious use of this material in large quantities and in improper ways. As used for flooring, for example, it is taken as a matter of course that any building pretending to possess fire-proof qualities shall be provided with a satisfactory fire-resisting floor system of terra-cotta, concrete, or composition material. Then, as though the use of any such system were entirely sufficient, the whole floor area is generally covered with a wood floor, and often with an under flooring of greater thickness. Were such floors always laid so that absolutely no air-spaces existed beneath them, the evil would be lessened, but the example of the Home Insurance Building fire in New York shows how easily such open spaces may be left beneath the flooring, to act as means of ready communication of flame, and to aid combustion.

Another very ordinary fault attendant upon the use of wood floors is that of allowing the terra-cotta partitions to be built upon such flooring, instead of reaching to the concrete or to the floor-arch proper. Many failures of otherwise serviceable partitions are to be traced to this cause.

But even when used with the greatest care, and with the avoidance of the faults above specified, the introduction of such large quantities of combustible material within a building intended to resist the spread and damage of fire, cannot but be at variance with the principles of fire-resisting design. Satisfactory substitutions for wood flooring are surely to be had among the many non-combustible flooring materials now on the market. A material called "Lignolith" seems to offer many acceptable qualities, and this composition of wood fibre and non-hydraulic cement, set by means of certain acids, has already been used in several notable instances. It is fire-proof, waterproof, reasonably elastic, durable, and not cold or unyielding as tile or terrazo. For the corridors, at least, and for all public or much-used areas, some such floor as "Lignolith" or tile or terrazo should most certainly be used.

Another unnecessary and menacing utilization of wood in large quantities lies in the ordinary construction of store counters and fixtures. The substitution of counters covered with sheet metal (except possibly the polished wooden tops), with metal counters underneath and behind or along the walls, would greatly reduce the fire risk and ultimate damage to both stock and fixtures.

In the matter of partitions also, great emphasis is apt to be laid on the fact that "fire-proof" partitions have been employed, consisting of terra-cotta blocks, or possibly a light framework of metal studding and metal lathing, covered by plaster, but it is probably no injustice to say that 75 per cent. of so-called fire-proof partitions would undoubtedly fail to accomplish their purpose under even moderately severe test conditions.

Much has been said of late against the introduction of woodwork into partitions intended to resist attacks by fire, and still, even with such satisfactory means of remedying this defect as are at hand, note how present contracts still call for the old and inadequate methods. Highly varnished and combustible wooden doors, wood frames, architraves, and even sometimes wainscoting, are still employed in partitions separating rooms from corridors, and rooms of greater hazard from those containing materials or conditions of a less menacing character. Interior sash, too, are still to be found in recent work, introduced to transmit light from corridors to offices or hotel rooms, or to provide ventilation, the detail almost always calling for wooden frames and sash, and ordinary glass.

To these very well-known inconsistencies must be added the practice of supporting the terra-cotta blocks over doorways upon the rough wood frames. This is most decidedly incompatible with any fire-retarding qualities which such partitions may be expected to possess. In other cases the blocks are not of sufficient thickness or stability to resist the force of fire hose.

Such incongruities may be transposed into consistent and rational designs by employing metal studding for the framework of doors or other openings in terra-cotta partitions, as is done in many of the United States public buildings of recent design, and by using metal-covered doors, door frames, window sash, etc., as utilized by Mr. R. W. Gibson, in the Onondaga County Savings Bank Building, Syracuse, N. Y. Wire glass should also be substituted for the ordinary glass now used in such cases.

(*Continued.*)

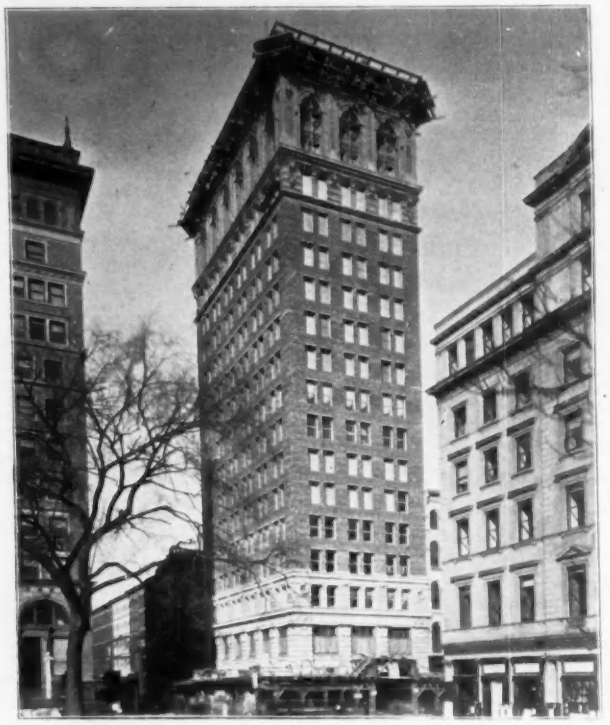
Selected Miscellany.

NOTES FROM NEW YORK.

The big taxes that real estate in New York is forced to pay these days is a very serious matter. Probably it has had as much to do, perhaps even more to do, with the decline in building operations than the advance in the price of building materials. Certainly, the two united have been decisive. One of these retarding factors promises, as we have seen, to pass away; the other will remain to trouble us, unless the people of this city become a little more sensitive than they are about the extravagant manner in which the affairs of this municipality are being managed. However, we have had a very prosperous period during the present year, measured by ordinary standards, and there are no events possible that can put us back into the condition that we were in from 1893–96. That is, no conceivable event; for after four years of business prosperity and progress, we surely will all eagerly give our assistance in securing another such period of four years.

Within the next decade, New York will become a city noted for its great bridges. The new East River bridge is well under way, the great steel towers looming up so that they are seen for miles around the country. Three other East River bridges are contemplated, all of which will tend to bind New York and Brooklyn closer; and the greatest of all, the immense North River bridge, for the construction of which contracts have been let, will be a great boon. Over this it is proposed to have the railroads run, and there will be one grand terminal in New York for all the roads now landing in New Jersey, whereby the time spent in ferry travel will be saved. It is promised that this will be one of the most wonderful bridges of its kind in the world. It will be nearly twice as large as any suspension bridge now in existence. Its steel towers will rise to the height of 587 ft. above high water, more than 250 ft. above the Statue of Liberty, and half again as high as the tallest sky-scraper in the city.

Mr. Howard Gould intends building a city residence on Fifth Avenue and a country residence on Long Island, the aggregate



BROADWAY CHAMBERS, BROADWAY, NEW YORK CITY.
Fire-proofed by the National Fire-proofing Company.
Cass Gilbert, Architect.

SECURITY BUILDING, ST. LOUIS, MO.
Built with Roman brick furnished by the Hydraulic-Press Brick Company.
Peabody & Stearns, Architects.

CARTOUCHE.
New York Architectural Terra-Cotta Company, makers.

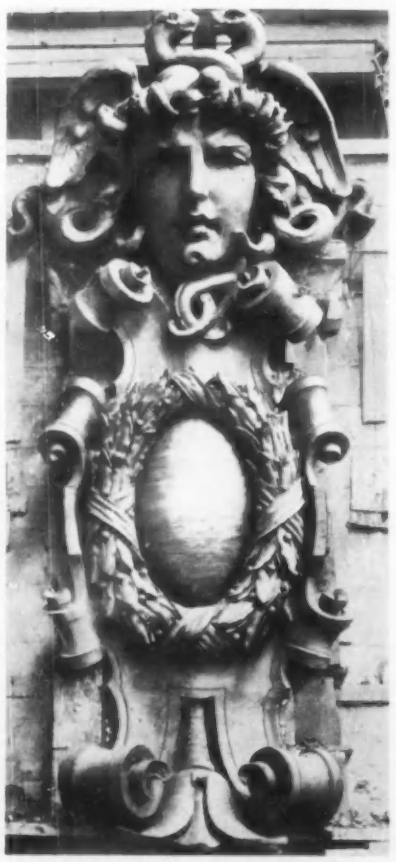
cost being estimated at $1,000,000. Mr. Bruce Price will be the architect for the country house and C. P. H. Gilbert for the city house.

NOTES FROM CHICAGO.

Mr. W. L. B. Jenney, of this city, is one of the official delegates to the Fifth International Congress of Architects, to be held in Paris from July 28 to August 5.

The following named were granted licenses to practise architecture, at the examination held on June 19–21 at Urbana, Ill.: Henry Wittekind, N. Max Dunning, Alfred Alschuler, and Francis M. Bartholomae, all of Chicago; George W. Ludwick, Danville; Harry R. Temple and William G. Foster of Urbana; Ernest Helfenstetter of St. Louis; Andrew S. Marland, Alton; Charles A. Phillips, Evanston, and Raymond S. Wiley, Bellflower, Ill.

Under the provisions of the new constitution adopted by the Architectural League of America at its recent convention here, the new president of the League, Mr. Joseph C. Llewellyn, assisted by the executive committee of the Chicago Architectural Club, has chosen the League's first executive board, as follows: Vice-president, Richard E. Schmidt, Chicago; corresponding secretary, Emil G. Lorsch, Detroit; recording secretary, Hugh M. G. Garden, Chicago; treasurer, August Wilmanns, Chicago. The other members of the board are Robert C. Spencer, Jr., of Chicago and Prof. Newton A. Wells of the University of Illinois.



PANEL, 15TH STORY, BROADWAY CHAMBERS, NEW YORK CITY.
Perth Amboy Terra-Cotta Company, makers.
Cass Gilbert, Architect.

PILASTER.
New Jersey Terra-Cotta Company, makers.

PERSONAL AND CLUB NEWS.

Early in the fall a meeting of architects particularly interested in church architecture will be held in Philadelphia for the purpose of organizing an Ecclesiastical Architectural Society. The invitations have not yet been sent out.

The T Square Club will be officially represented at the Fifth International Congress of Architects at Paris by K. Kent Day, of the firm of Frank Miles Day and Brother.

A preliminary meeting was recently held in Milwaukee to arrange for the organization of an architectural club in that city. It was decided to apply for membership in the Architectural League of America.

Prof. Thomas Nolan of the architectural department of the University of the State of Missouri, Columbia, Mo., has been called to a chair in the University of Pennsylvania.

The annual meeting of the Cleveland Architectural Club was held on May 10. The election of officers resulted as follows: President, Dominick W. Benes; vice-president, Louis Rohrheimer; secretary, W. H. Nicklas; treasurer, Stephen C. Gladwin; librarian, Herman Kregelius; chairman of current work committee, Frederick W. Striebinger; chairman of entertainment committee, Kanegoro Nagaye. President Benes appointed William Warren Sabin and Abram Garfield on the current work committee, and George W. Andrews and William R. Watterson on the entertainment committee.

Percy Griffin, architect, announces the removal of his office to 9 Hanover Street, corner of Beaver Street, New York.

The annual meeting of the Washington Architectural Club was held in the club rooms at the "Octagon" on June 2. The following officers were chosen to serve during the ensuing year: President, Theo. F. Laist; secretary, Percy Ash; treasurer, Carl F. Grieshaber; directors, E. A. Crane, Arthur B. Heaton, Waddy B. Wood, Elwyn Green; delegates to the Fine Arts Association, Messrs. Wheaton, Baker, and Donn; al-

NORTH AMERICAN TRUST COMPANY BUILDING, NEW YORK CITY.
White semi-glazed terra-cotta made by the Atlantic Terra-Cotta Company.
Bruce Price, Architect.

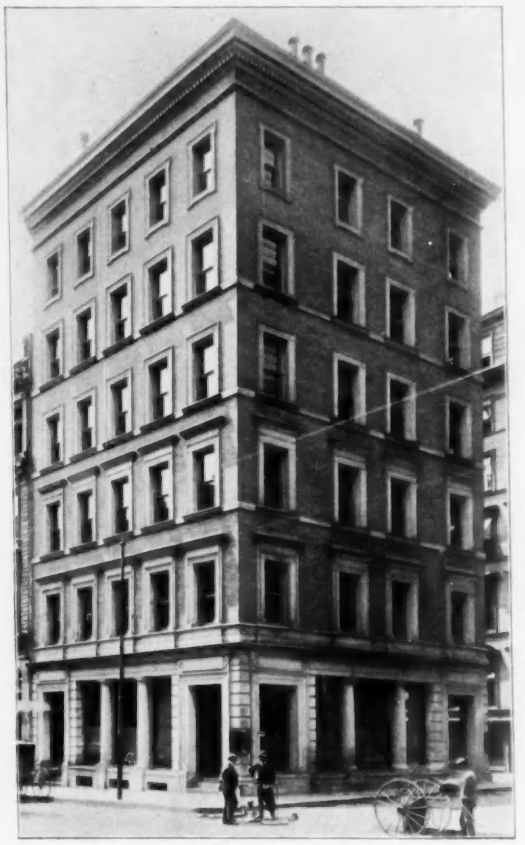
ternates, Messrs. Marsh, Peter, and W. W. Stevens.

BOOK REVIEW.

THE ARCHITECTURAL ANNUAL. — Edited by Albert Kelsey, 931 Chestnut Street, Philadelphia.

Through the courtesy of the publishers, we are enabled to reproduce from an article on the work of Wilson Eyre, Jr., in this year's "Architectural Annual," a cut of a pleasing window in a town residence, designed by Mr. Eyre. The article from which this was taken is an ably written and appreciative critique by Alfred Morton Githens, in which the personality of Mr. Eyre's work is taken as the key to its strength. It is illustrated from drawings and sketches by Mr. Eyre, and from photographs of his executed work, of which there are over one hundred.

The "Architectural Annual" opens with an editorial summary of the architectural history and opinion of the year, brief mention of the present status of matters that have been brought under discussion in professional circles, and notes in terse form on the tendencies manifest in thought and practice. This is followed by a number of signed, and for the most part, illustrated articles and papers by men of known reputation, both here and abroad, with a few important letters, extracts from addresses and the proceedings of architectural and allied societies. The more important competitions of the year have been noted, and in some instances, especially in the case of the competition for the University of California, they have been fully illustrated.



OFFICE BUILDING, BOSTON, MASS.
Front brick furnished by Sayre & Fisher Co.
Wheelwright & Haven, Architects.

Apparently, one of the chief purposes of the editor was to encourage interest in municipal improvements, as there are a number of articles, mostly thoroughly illustrated, relating to civic embellishment, street pageantry, city bridges, etc., and a short sketch of the work of Baron Haussman, the father of all modern city-making.

The "Annual" concludes with a directory of architectural schools and clubs, and of the journals of the profession, the general character of each of the latter and the field occupied by it being also reviewed in a few words.

IN GENERAL.

The name of the Celadon Terra-Cotta Company, Ltd., has been changed to Celadon Roofing Tile Company. No change has been made in the management or character of the business.

The Columbus Face Brick Company have been experimenting for a long time to determine the best way to produce a rough brick for base course and trim, and have found at last on their property a shale that burns out large iron spots, and the brick has been named "Iron-clad," companion to

MOONEY–BRISBANE BUILDING, BUFFALO, N. Y.
Union Akron Cement, "Akron" Brand, used in all the masonry work.
M. E. Beebe & Son, Architects.

WINDOW, TOWN RESIDENCE.
Wilson Eyre, Jr., Architect.

BALUSTRADING IN PARAPET RAIL, LIVERPOOL, LONDON, AND GLOBE BUILDING, NEW ORLEANS, LA.
Northwestern Terra-Cotta Company, makers.

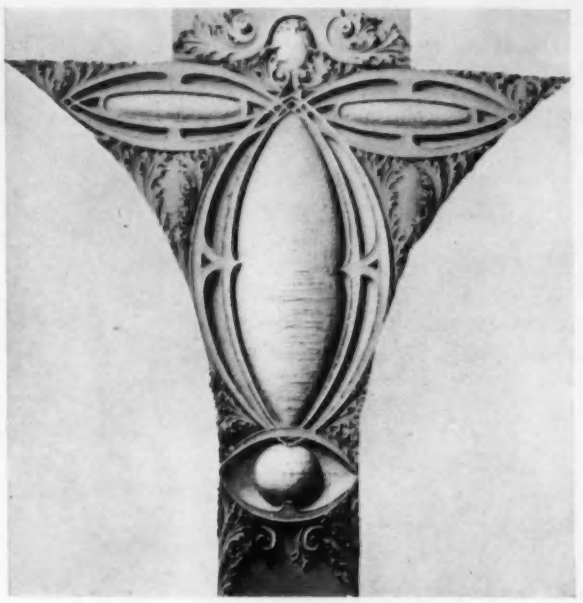
their "Ironclay." The vitrification of the brick is perfect and the color beautiful, and when it is considered that the shale from which it is made contains all the elements that produces the brick, "Iron-clad" will become interesting to architect and geologist alike. It is in no sense a freak brick, but rather, unique, and is bound to find favor for certain classes of work with our best architects.

A. J. Blix, architect, has opened an office at Virginia, Minn., and would be glad to receive manufacturers' catalogues and samples.

The Indianapolis Terra-Cotta Company reports the following new contracts: At Indianapolis, Ind., Zener apartments, Handy & Cady, architects; store building,

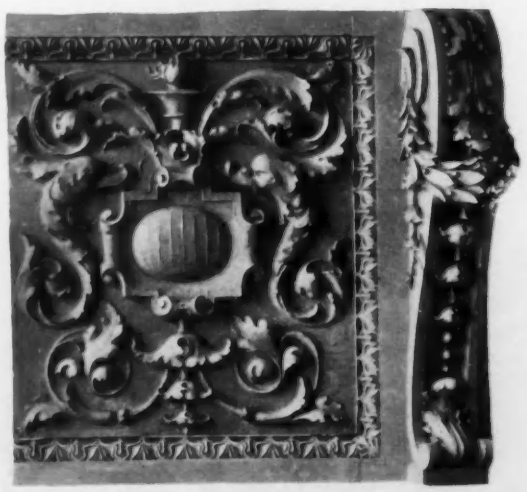
KEY, MAIN ENTRANCE, FEDERAL BUILDING, YOUNGSTOWN, OHIO.
St. Louis Terra-Cotta Company, makers.
D. H. Burnham & Co., Architects.

entire front including cornice all terra-cotta, Vonnegut & Bohn, architects; store building, C. E. Bates, architect. At Milwaukee, Grace Lutheran Church, H. C. Koch & Co., architects, Y. M. C. A. Building, H. A. Betts, architect. At Louisville, Liederkranz Home Association, Charles D. Meyers, architect. At Toledo, building for Superior Building Company, George S. Mills, architect. At Lexington, Ky., McClelland Building, Richards, McCarty & Bulford, architects. At Hoopeston, Ill., Presbyterian Church, Deal & Bullard, architects. At Appleton, Wis., Stevens Building, H. Wiedhagen, architect.



SPANDREL, OFFICE BUILDING, NORFOLK, VA.
Excelsior Terra-Cotta Company, makers.
J. E. R. Carpenter, Architect.

The Tiffany Enameled Brick Company reports the following new contracts: West 33d Street engine house, and 77th Street engine and hook and ladder house, New York City, Horgan & Slattery, architects; Miles Building, Philadelphia, Pa., Charles Balderson, architect; Tonsa Savage's stable, Newark, N. J., J. H. and W. C. Ely, architects; Olympia Cotton Mills, Columbia, S. C., W. B. Smith, Wally Company, engineers; West Roxbury High School, Andrews, Jaques & Rantoul, architects; Erie County Morgue, Buffalo, N. Y., Lansing & Beierl, architects; Union Depot, Grand Rapids, Mich., D. H. Burnham & Co., architects; Bacon & Sons' Storage Building, Louisville, Ky., Clark & Loomis, architects; General Electric Building, Minneapolis, Minn., Stone & Webster, architects; F. B. Semple's carriage room, Minneapolis, Minn., F. B. and L. L. Long, architects; C. R. I. and P. R. R. Depot, Des Moines, Ia., John Volk & Co., builders.



PANEL AND BRACKET.
Conkling-Armstrong Terra-Cotta Company, makers.
A. A. Richter, Architect.

Photo Copyrighted 1900, Wurts Bros.

REPTILE HOUSE, BRONX PARK, NEW YORK CITY.

HEINS & LA FARGE, ARCHITECTS.

← BATH HOUSE FOR THE CITY OF PHILADELPHIA, PA.

HAZELHURST & HUCKEL, ARCHITECTS.

A CITY BLOCK AT WASHINGTON, D. C.

UNIV. OF MICH.

THOMAS NELSON PAGE HOUSE, WASHINGTON, D. C.
McKIM, MEAD & WHITE, ARCHITECTS.

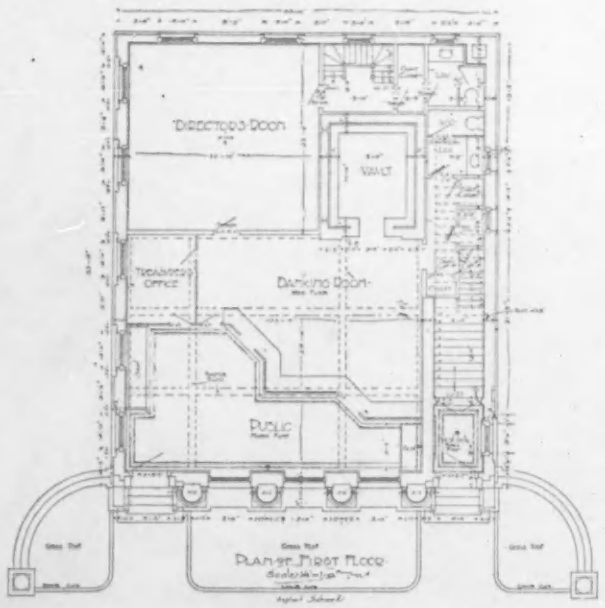
Photo Copyrighted 1900, Wurts Bros.

WINTER HOUSE FOR BIRDS, BRONX PARK, NEW YORK CITY.

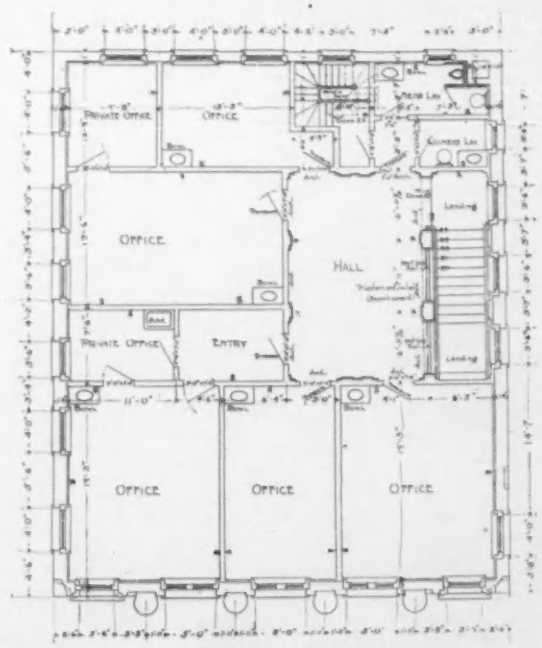
HEINS & LA FARGE ARCHITECTS.

ASTOR HOUSES, FIFTH AVENUE NEW YORK CITY.

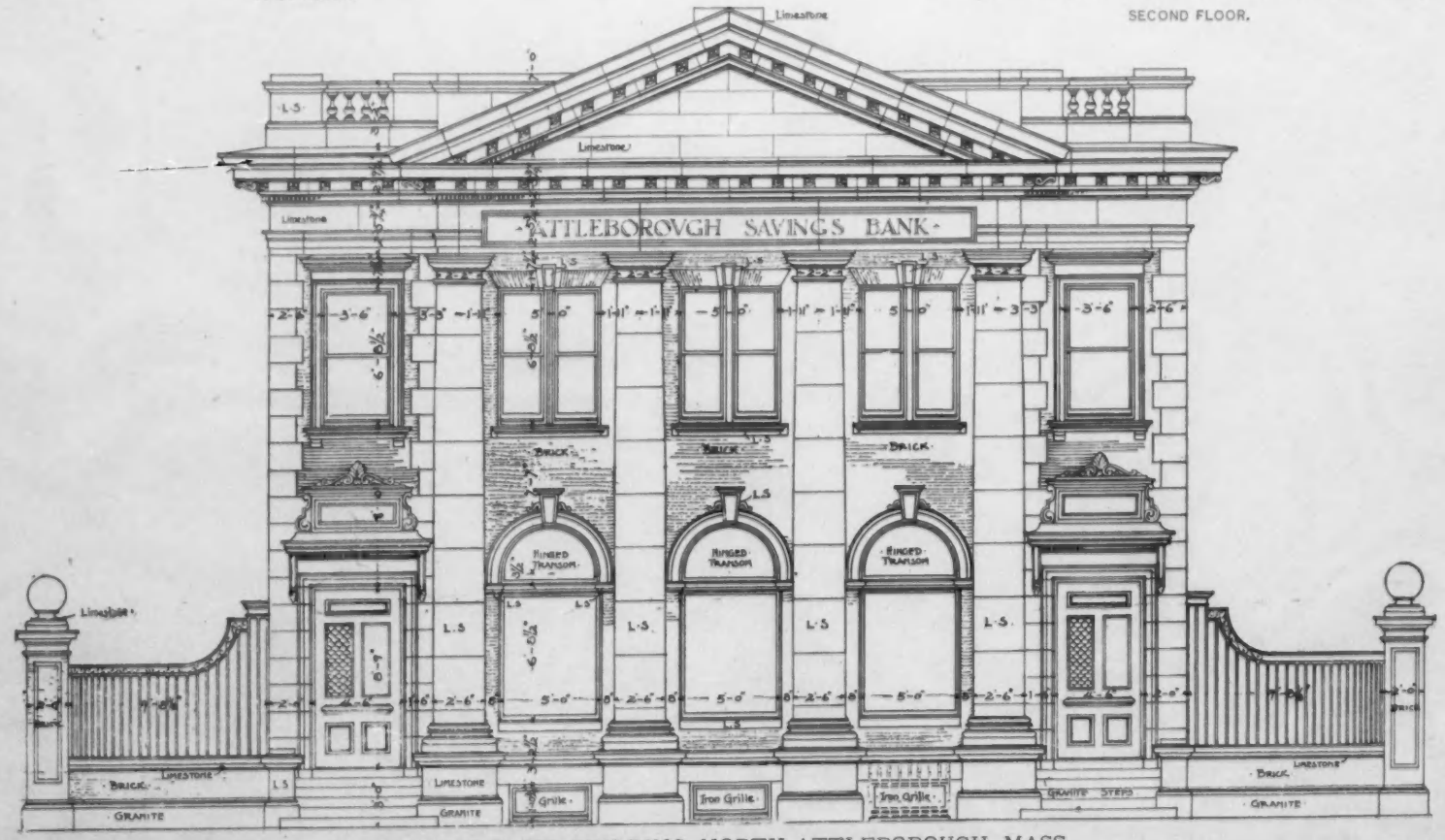
UNIV OF MICH.



FIRST FLOOR.

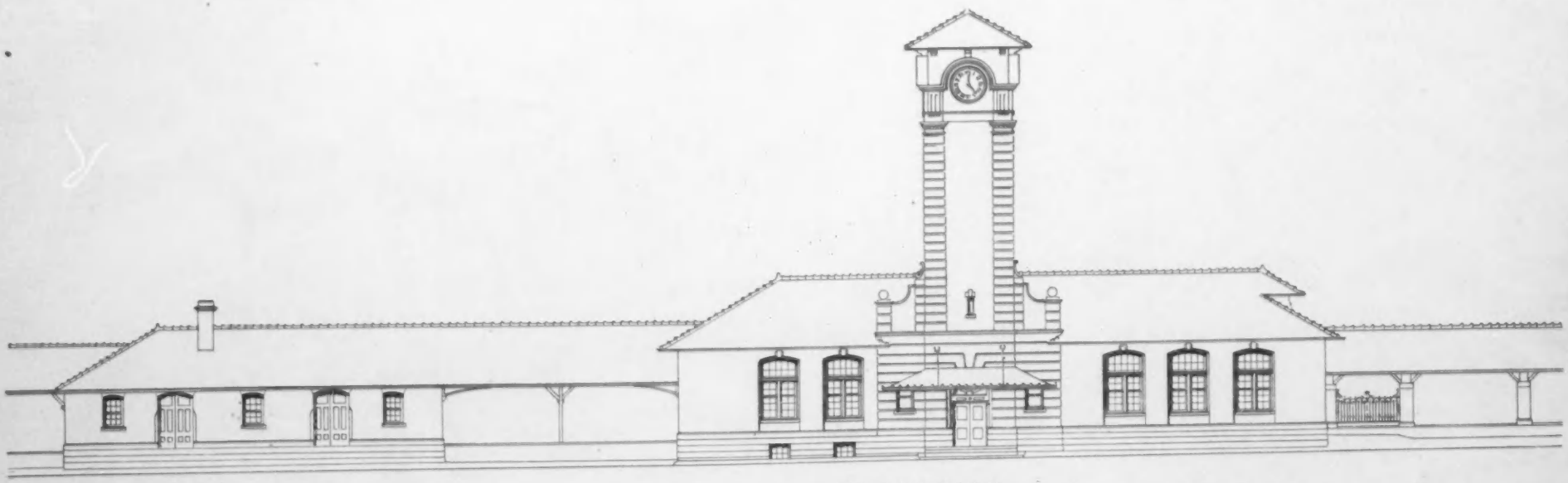


SECOND FLOOR.

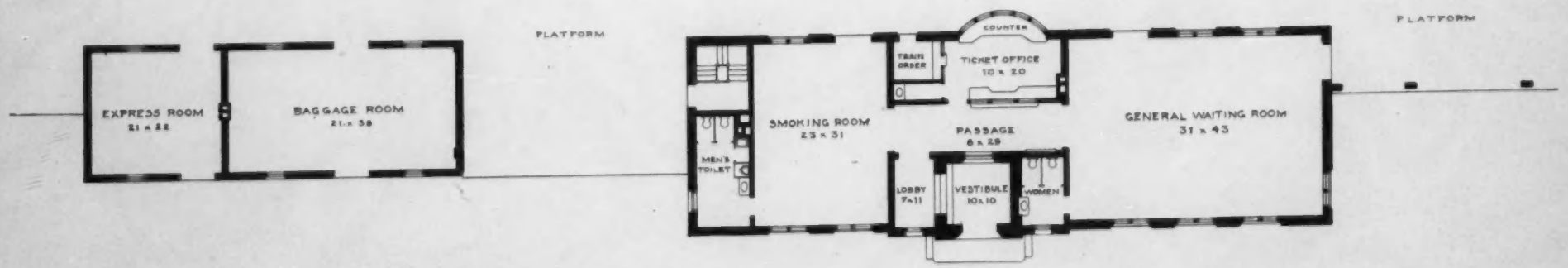


SAVINGS BANK BUILDING, NORTH ATTLEBOROUGH, MASS.

HERBERT D. HALE, ARCHITECT.



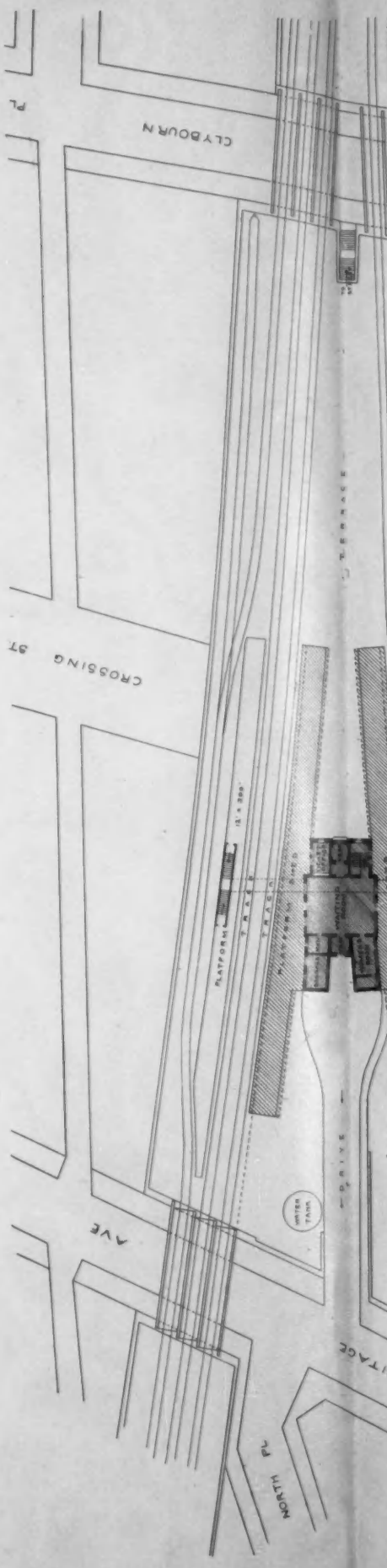
ELEVATION

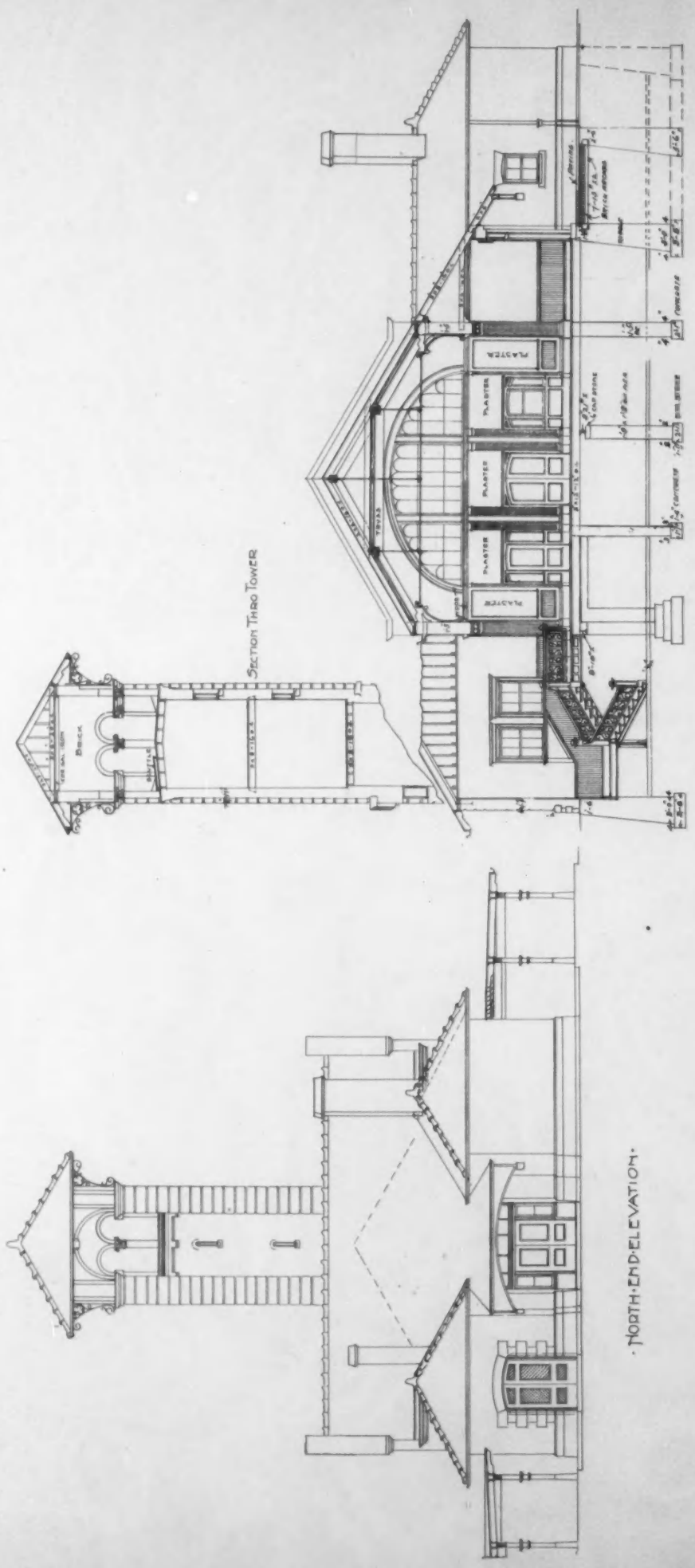


PLAN

STATION AT BELOIT, WIS., C. & N. W. RAILWAY.

FROST & GRANGER, ARCHITECTS.


CLYBOURN
CROSSING ST
AVE
NORTH PL
PLATFORM
TRACK
DRIVE


PLASTER
PLASTER
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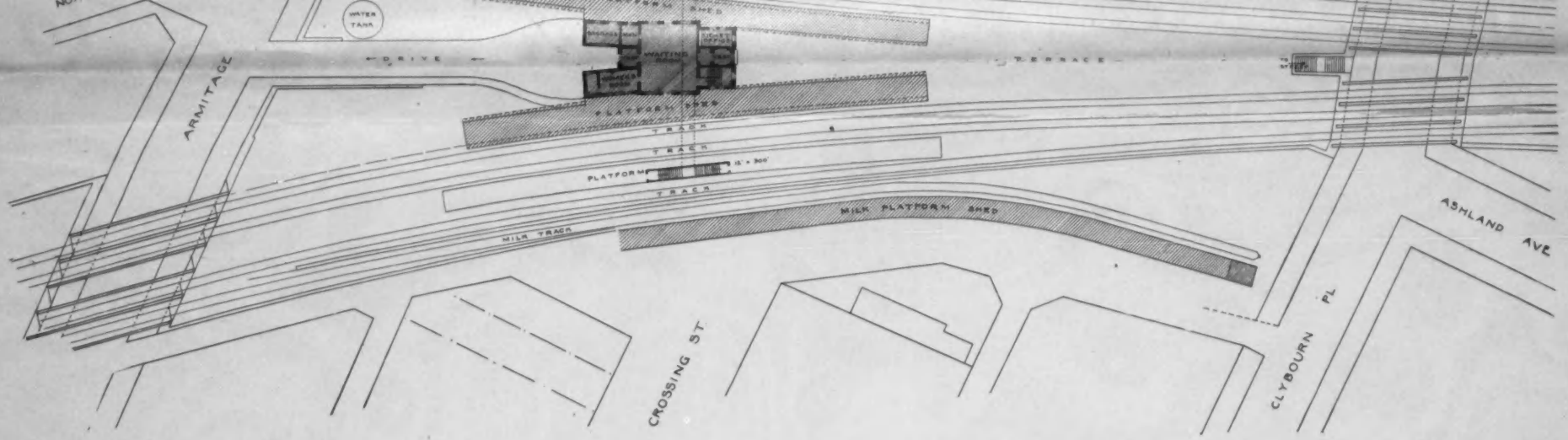
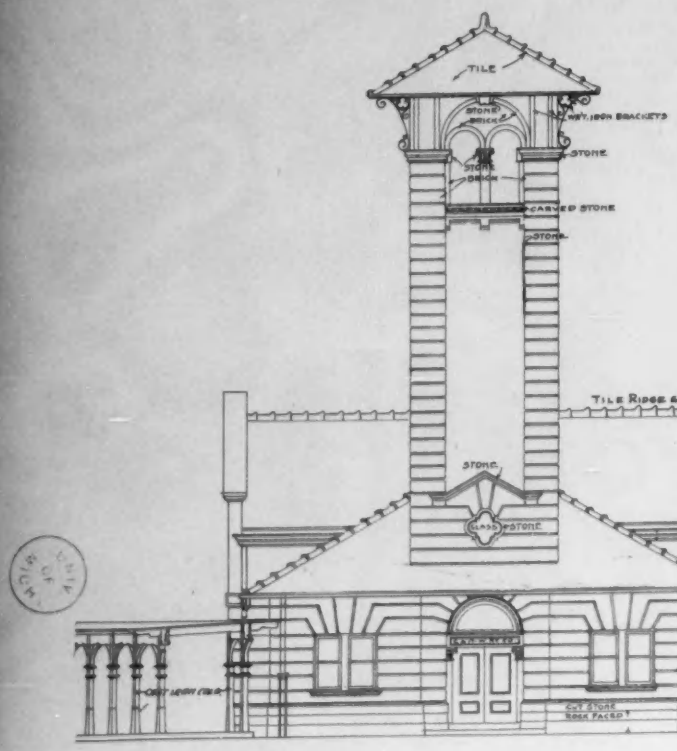
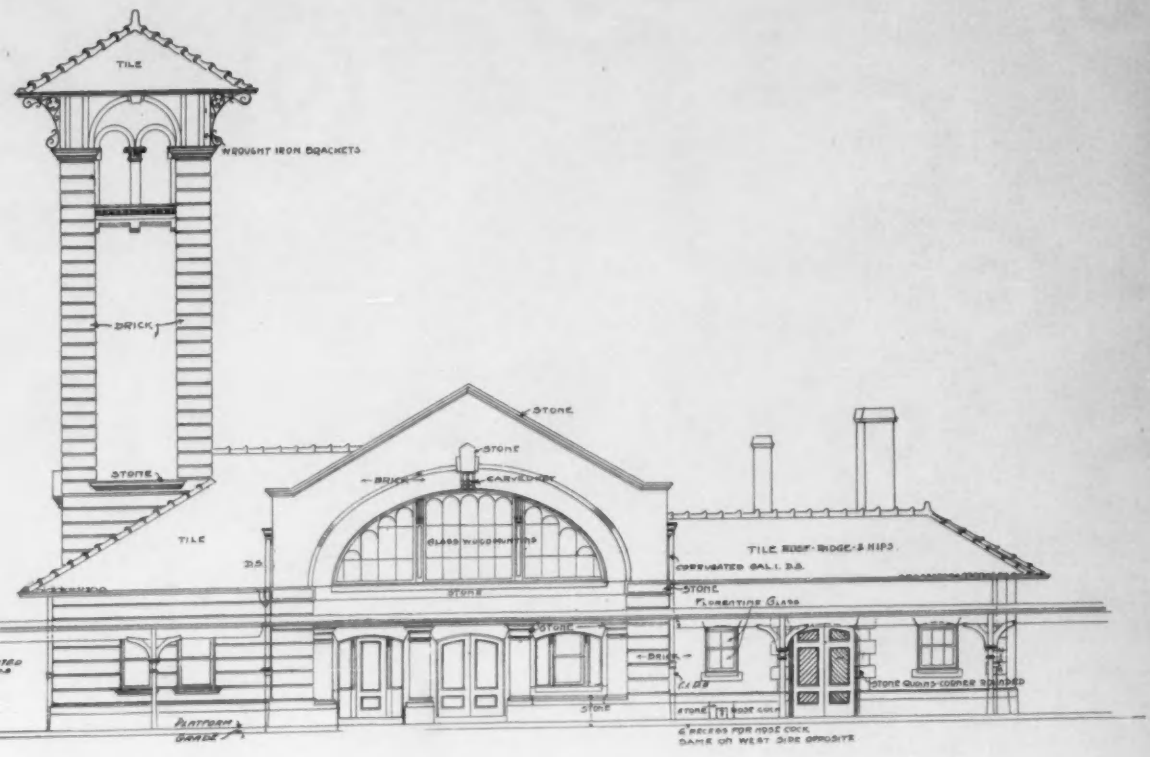
PLASTER
Brick
SECTION THRO TOWER
LONGITUDINAL SECTION
NORTH END ELEVATION





·FRONT· ELEVATION·

·SOUTH END (TOWARDS CLYBOURN PLACE)·



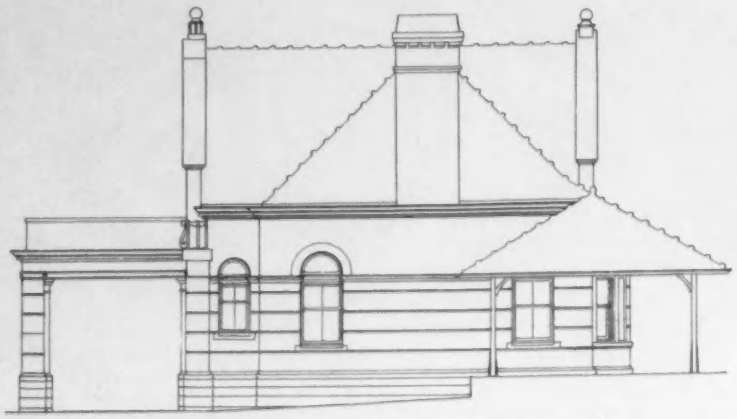
·EAST·SIDE·ELEVATION·

SCALE ⅛ IN = 1 FOOT

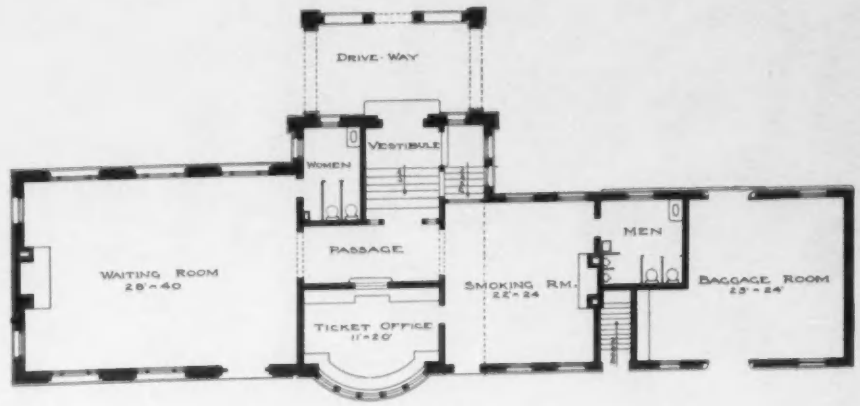
STATION AT CLYBOURN JUNCTION, ILL., C. & N. W. RAILWAY.

FROST & GRANGER, ARCHITECTS.

"TOWN ELEVATION OF STATION"



"END ELEVATION OF STATION"



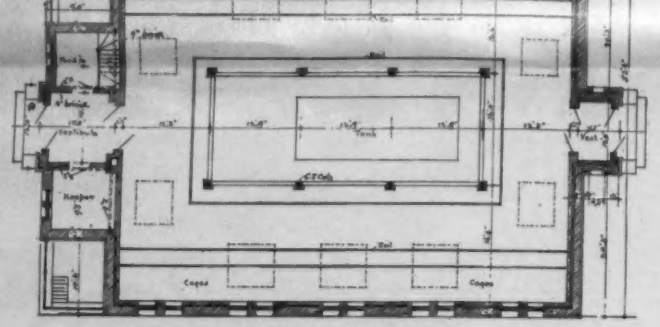
STATION AT HIGHLAND PARK, ILL., C. & N. W. RAILWAY.

FROST & GRANGER, ARCHITECTS.

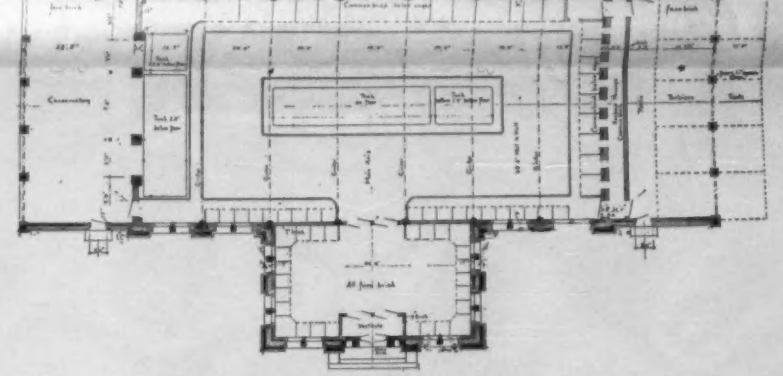
UNIV. OF ILL.

DETAIL, FRONT ELEVATION, REPTILE HOUSE, BRONX PARK, NEW YORK CITY.

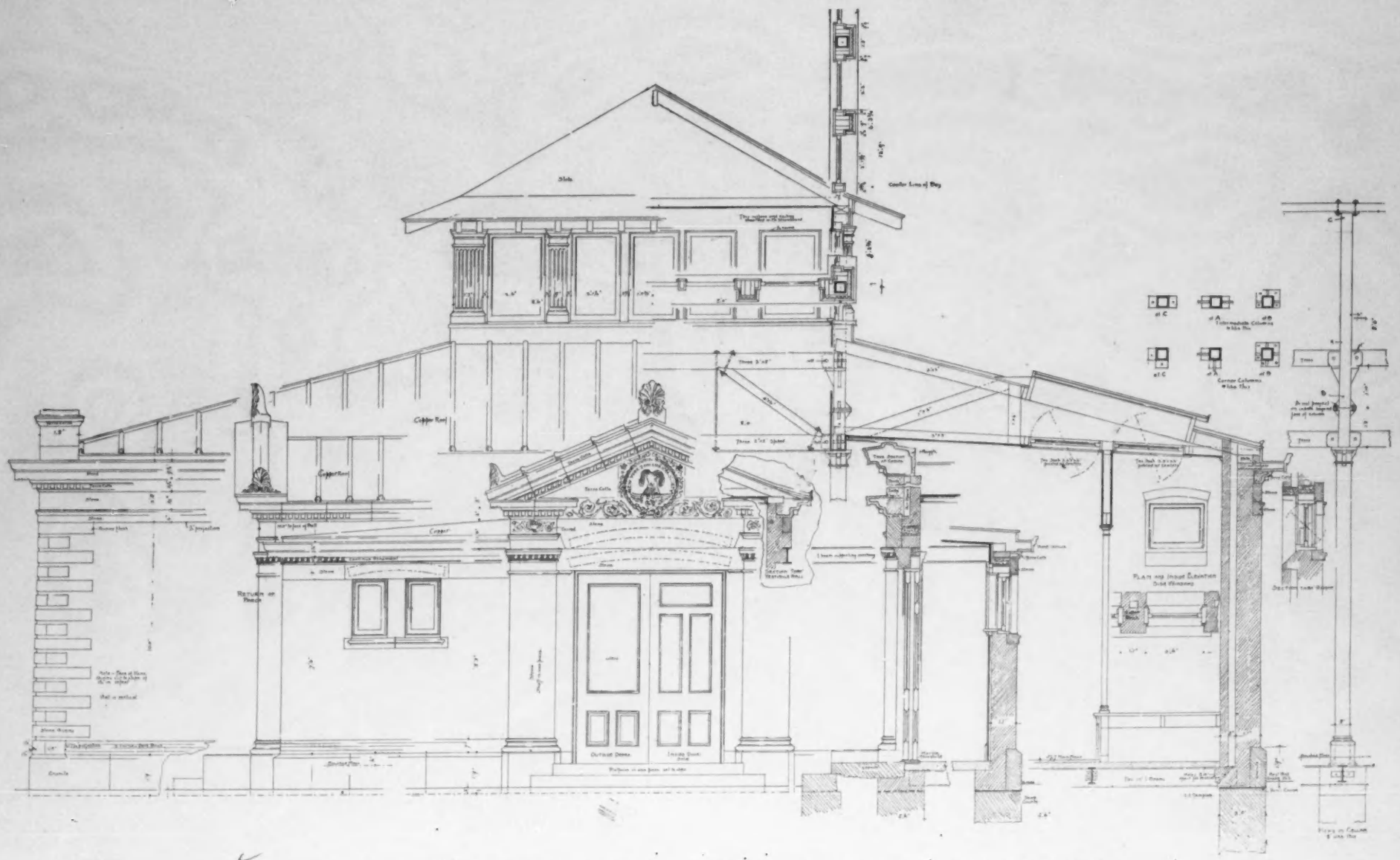
HEINS & LA FARGE, ARCHITECTS.



FLOOR PLAN, BIRD HOUSE.



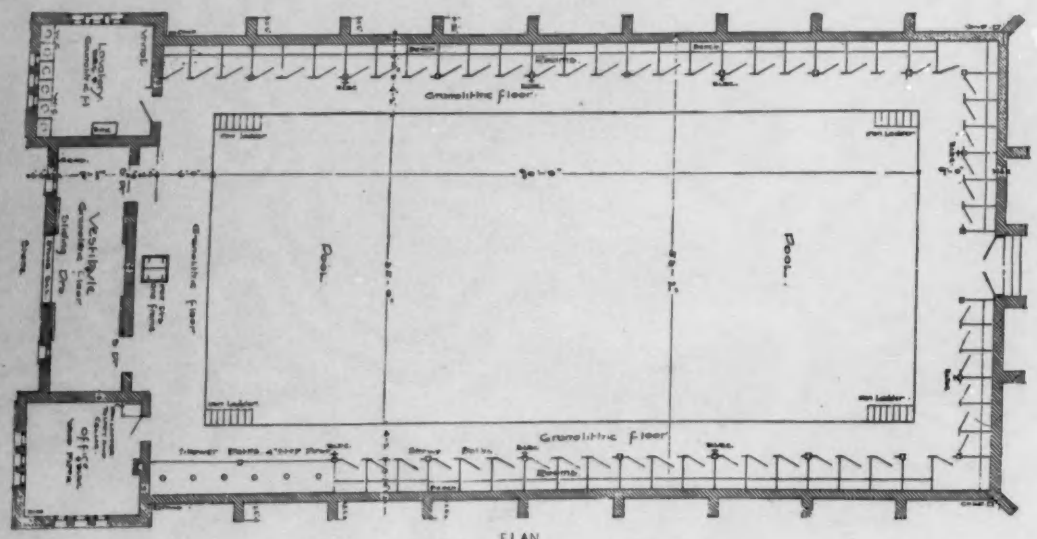
FLOOR PLAN, REPTILE HOUSE.



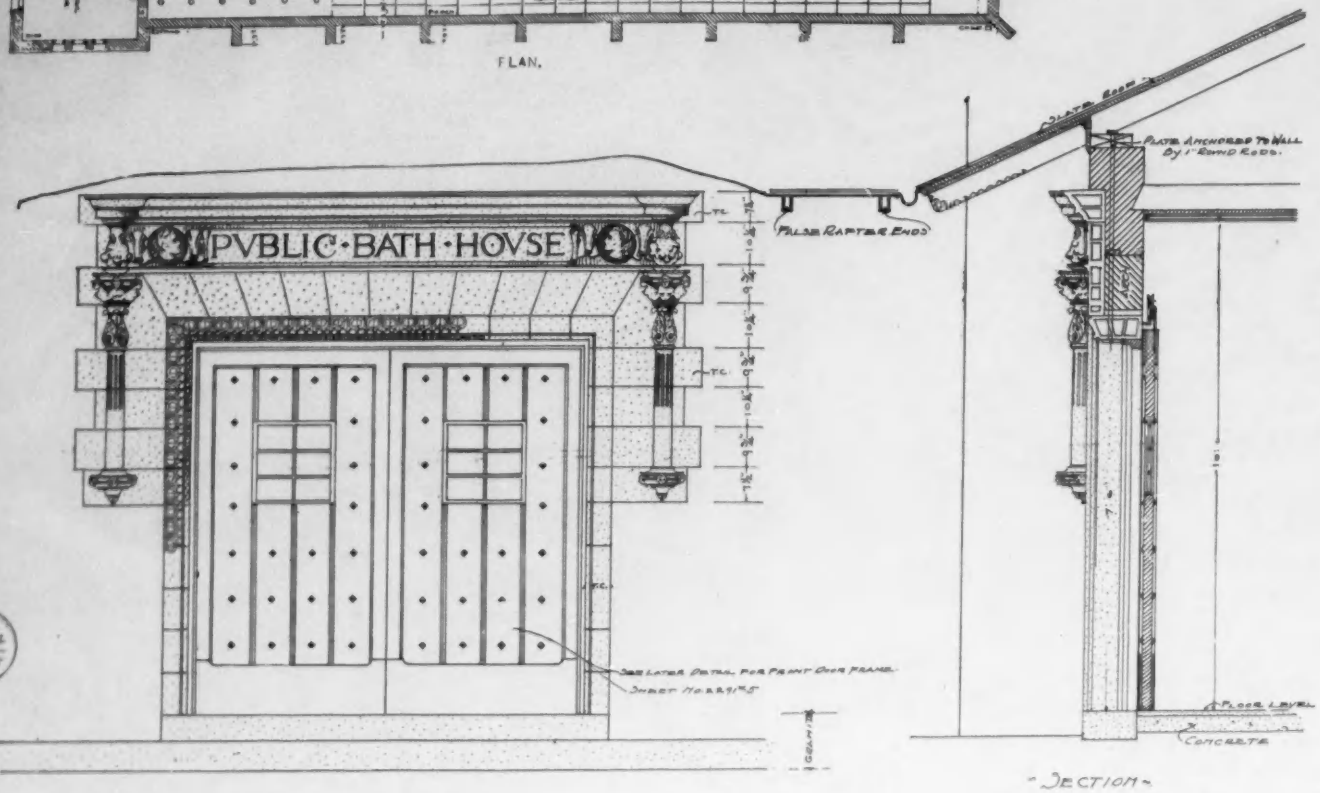
DETAIL, FRONT ELEVATION, WINTER HOUSE FOR BIRDS, BRONX PARK, NEW YORK CITY.

HEINS & LA FARGE, ARCHITECTS.

UNIV. OF MICH.

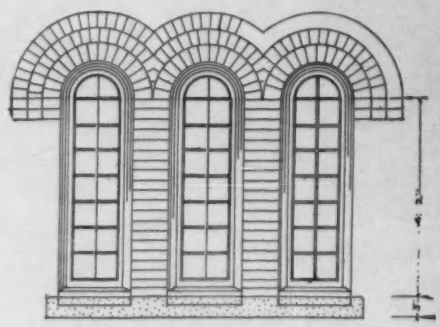


PLAN.

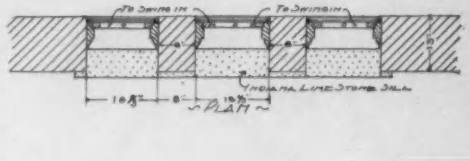


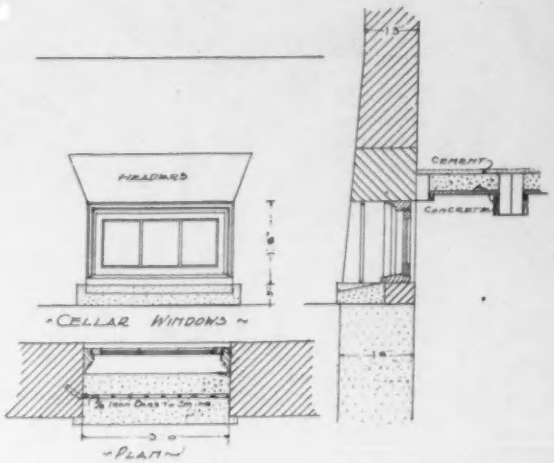
FRONT ELEVATION.

SECTION.



WINDOWS IN LAVATORY AND OFFICE.





DETAILS, BATH HOUSE FOR THE CITY OF PHILADELPHIA, PA.

HAZELHURST & HUCKEL, ARCHITECTS.

UNIV. OF MICH.